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Amateur Photographer.

VOLUME IV.

JANUARY TO DECEMBER, 1892.

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INDEX TO VOLUME IV.

PAGE
Active Camera Club, An, 207
Albany Camera Club, 178, 321, 511, 552
Amateur in Europe, The, 200
Amateurs at the World's Fair, Persecution of, 210
*Amateur's Visit to Japan, An, 183
American Institute, Photographic Section of the, 44, 80, 117, 274, 559
American League of Amateur Photographers, The, 363
American Work and Workers, 435
Amidol, 490, 542
Amidol Developer, The, 405, 477
Amidol, Later Experiments with, 546
Annual Joint Exhibition, 167
Apparatus for Making Lantern-Slides, 100
Application of Photography to Surveying, The, 23
Aristo Paper, One Way to Handle, 390
As to a Certain "Previousness" Among Some Contributors to Photographic Literature, 498
Astronomical Photography, 218
*At the Silver Gate, 491

Barnes', Miss, Tour Through England, 422
Barnes', Miss, Return, 488
Bausch & Lomb Lens and Shutter Contest, The, 64, 65, 83
Bellows, The Camera, 159
Blue Print in the Camera, How to Copy a, 15
Books and Exchanges, 45, 86, 129, 179, 231, 279, 327, 375, 421, 467, 564
Boston Camera Club, 43, 80, 82, 123, 563
Boston Exhibition, The, 263
Boston Fifth Annual Joint Exhibition, Rules of the, 123
Boston Fifth Annual Joint Exhibition, The, 113, 259, 296
Boston Fifth Annual Joint Exhibition, The (Preliminary Notice), 218
British Annual Convention, The, 365
Brooklyn Academy of Photography, 43, 80, 177, 228, 275, 511
Brooklyn Institute, Department of Photography, 80, 178, 268, 274, 510
Brooklyn Y. M. C. A., Camera Section, 80, 465
Buffalo Camera Club, 278
Burlington Camera and Sketch Club, 79

California Camera Club, 41, 79, 125, 230, 276, 322, 463
Camera Club of Hartford, 125, 177, 277, 511, 563
Camera Club of West Somerville (Mass.), 278
Camera in Ireland, A, 552
*Canada Through a Camera's Eye, 185
Capitol Camera Club of Washington, D. C., The, 278
Carbon Process, The, 204
Celluloid Diaphragms, 500
Chattanooga (Tenn.) Photographic Society, 229
Chicago, 1893, 461
Chicago Camera Club, 228, 278, 321
Chicago Lantern-Slide Club, 278, 322
Cincinnati Camera Club, 176, 228, 279, 325
Cleveland Camera Club of the Case School, 279
Clinton (Mass.) Camera Club, 416
Club Affiliation, 498
Club Sketches, Hoboken Camera Club, 530
Colorado Camera Club, 81, 178
Colors, Reproducing Photographs in, 302
PAGE
Columbia Scenographic Association, 81
Columbian Visitors' Association 547
Columbus Camera Club, 80, 229, 278
Comments on Miss Barnes' Paper, 440
Correction, A, 67
Correspondence, 39, 63, 213, 313, 363, 413, 504, 548
Cranford Camera Club, 277

Dark-Room, The Old Witch House, 84
Delaware Camera Club, 323, 465
Developers, Notes on the Latest, 94
Diamidophenol, 542
Development, One Method of, 499
Dioramic, 83
Dioramic Effects in Photography, 83
Dippers, 84
Direct Positions on Gelatine Plates, 84
Discoverer of the Gelatino-Bromide Process, 113
Disks and Their Relation to the Lens, 84
Dispersion, 86
Dissolving Views, 86
Distance, 86
Distance, Angular, 86
Distilled Water, 87
Distillery, A Portable 87
Distortion, Deformed, 87
Distortion in Albumen Paper, 87
Divergent Rays, 180
Documents, How to Copy, 180
Dodging Negatives, 180
Double Printing, 181
Double Portraits, Freak Photography, 181
Drachm, 182
Dronin's Lamp, 182
Dropping Tubes, 182
Drops, 182
Drying Box, 182
Dry Plates, 183
Dry Plates, Some of their Defects, Scratches or Holes, 183
Dry Plate, Washing, 184
Dry Pocket Gum, 184
*Dunkirk's Picturesque Park, 431
Duplicating Negatives, 180
Dust, 180
Dusting-in Process, 181

Ear and the Likeness, The 236
Early Photographs, 236
Easel, 236
Eastman Company, The, 110
Eastman Litigation, The, 367
Eau De Javelle, 236
Ebonite or Vulcanite, 236
Eclipse Photography, 236
Economy, 237
Eder's New Acid Hyposulphite Bath, 237
Edging, 237
Editorial Comment, 13, 64, 109, 165, 206, 263, 306, 363, 405, 456, 498, 545
Editorial Table, 422, 467, 516, 564
Educational Value of Photography, 237
Effects of Light, 238
Effects of Temperature on Dry Plates, 238
Egyptian Photographs, 281
Eiko and Para Developer, The Mixed, 405
Eikonogen, 281
Eikonogen Developer, The 369
Eikonogen Stains from the Finger-nails, To Remove, 497

*Illustration or illustrated.

PAGE
Electrical Light, 284
Electricity and Development of the Plate, 284
Electrotyping Photographs, 284
Elements of Beauty in a Picture, 283
Elemi, 283
Eliminating Hypo, 284
Emulsion Process. History of, 377
Emulsions, 285
Enamel, 378
Enameling Prints Glacé, 377
Encaustic Paste, 380
Engineering by the Camera, 426
English Prize Competition, An, 329
Engraving Processes, 426
Enlargement and Reduction Tables, 428, 429, 430
Enlargements may be Vignetted, 425
Enlarging, 381
Enlarging by Artificial Light, 425
Enlarging by Daylight, 382
Enlarging Easels, 426
Eoside of Silver, 426
Eosin Silver Plates, 427
Equalizing Exposure on Interiors, 427
Equivalent Focus, 471
Equivalents, Metric, 472
Erythrosin, 472
Erythrosin Silver Plates, 474
Etching, 474
Ether, 475
Ether Methylated, 476
Ether Methylic, 476
Ether-Oxygen Lime Light, The, 476
Evidence, Photography in, 476
Excellence, Technical, 478
Experimenting, 519
Exposed or Not, 521
Exposure, 518
Exposure by Artificial Light, 521
Exposures for Varying Proportions of Image to the Original, Relative, 300
Expression, 516
Expression of the Eye in Photographs taken with the Magnesium Light, 565
Extension Cones, 521
Eye and the Camera, The 521
Eye, and Light Stored in, The, 522
Eyes, Our, and Our Work. 522

Fabric, Golden, 566
Fabricus, 566
Faces, Study of, 566
Faded Prints, To Restore, 567
Fading of Negatives, 566
Fading of Prints, 566
Fahrenheit, 568
Failures in Negatives (Foggy Negatives, Yellow-colored Negatives), 568
False Rendering of Photographic Images by the Misapplication of Lenses, 568
Faults in Negatives, 570
Fixing Bath for Warm Weather, 308
Formation of Pinholes. How to Prevent the, 499

Gelatino-Bromide Process, The Discoverer of the, 118
Gelatino-Chloride Prints, Toning and Fixing, 9
Geological Photographs, 64
*Great Glacier, B. C., 525

Hand-Camera Exposures, The Rational Development of, 107
*Hand-Camera, Improved, 452
Hand-Camera Without a Finder, The, 489
*Heliochromoscope, 536
*Heliochromoscope, The, 447, 500, 536
*Hetherington Magazine Hand-Camera, The, 195
Hiawatha Camera Club, 177, 228, 563
Hoboken Camera Club, 177, 465, 563
*Hoboken Camera Club (Exterior), 531
*Hoboken Camera Club (Main Hall), 532
*Hoboken Camera Club (Plan First, Second, Third Floors), 534
Hot Weather Advice, 359
Hydroquinone and Para Developer, A Combined, 209

Illustration, Our,
1, 49, 109, 165, 206, 263, 306, 363, 405, 456, 498, 545
Index Rerum Photographic,
33, 130, 180, 234, 281, 330, 377, 424, 471, 517, 565
Individuality in Photography, 553
International Photographic Exhibition in Paris, 206, 433
Iowa Photographers' Association, 465

*Japanese Girl, 523

Kallitype Process, The Improved, 309
Kodak Workers, Hints for, 481

Landscape Photography, The Color-Screen in, 388
Landscape Photography with Orthochromatic Films, 239
Lantern-Slide Interchange, American,
65, 81, 419, 514, 560
Lantern-Slide Methods, 155
Lantern-Slide, The Relation of Art to the, 539
Lantern-Slide Work, 56
Lantern-Slides, 503
Lantern-Slides, Notes on, 30
Lantern-Slides for Shipment, Packing, 66
Lantern-Slides, Toning, 28
Lazy Amateur's Stray Thoughts, A, 397
League of Amateur Photographers, New Jersey State Division of the American, 512, 560
Lebanon (N. H.) Camera Club, 418
Lens, An Improved, 167
Letter-Box, Our, 428
Light and Shade, 454
Lincoln (Neb.) Camera Club, 465
Lookout Mountain Camera Club, 328
*Lowell Camera Club, 179, 278, 415
Lynn Camera Club, 76, 277

Maddox, Dr. R. L., Proposed Testimonial to, 31
Maddox Fund, The, 15, 67, 210
Manchester (Conn.) Camera Club, 325
Men, Not Things, 515
Mexico, Notes from, 549
Minneapolis Camera Club, 323, 418, 464, 563
Monogen, 548
Montreal Camera Club, 229, 512
*Muench, F. A., President Hoboken Camera Club, 533
*Multiple Exposures, 143
*Multiples, 245
*Mystic Camera Club, 215, 279, 417

Nashua (N. H.) Camera Club, 277, 323
National Lantern Society, Advantages of, 458
Newark Camera Club, 177, 230, 277, 464, 561
Newark (Del.) Camera Club, 466
Newark High School Camera Club, 177
New Britain Camera Club, 123
New England Camera Clubs, Outing of the, 326
New Haven Camera Club, 277, 416
New Orleans Camera Club, 125, 229, 279, 464
New York Camera Club,
75, 121, 168, 227, 274, 466, 512, 560

Oakland Camera Club, 176
Obituary, 69
Orange Camera Club, 464, 562
*Orthochromatic or Isochromatic Photography, 49
Orthochromatic and Isochromatic, * 15
Our Anniversary, 306
Our Boston Agency, 14
Outing for January, 15
*Outing in the Cloud-Lands of Banff, 287, 333, 523

*Illustrated.

PAGE
Oxalic Acid, A Plea for, 101

Packing Plates, 111
Para-amidophenol Developer, An Improved, 209
Personal, 515
Photographers or Camerists, 212
Photographers' Association of America, 176
Photographers' Association of Canada, 465
Photographic Beginner, The, 441
Photographic Club of Baltimore City, 70, 122, 228
Photographic Conference, Meeting of the American, 418
Photographic Conference, Reorganization of the American, 374
Photographic Convention of the United Kingdom, 372
Photographic Limits, 448
Photographic Outings, The Coast of Maine as a Field for, 423
Photographic Patents, United States, 46, 469
Photographic Section, Manhattan Chapter, Agassiz Association, 231, 271
Photographic Society of Japan, 323
Photographic Society of Kansas City, 42, 177
*Photographic Society of Philadelphia, 42, 76, 126, 174, 222, 275, 320, 513, 562
Photographic Society of Waterbury, 229, 326, 465
Photographical Courtesies, 376
*Photographing in Quebec and Vicinity, 87
Photographs, How to Look at, 360
Photographs in Natural Colors, Reproducing, 14
*Photographs, Magic, Developed by Smoke, 398
Photographs Received, 68
*Photography, Distance, 146, 335
Photography in America, Amateur, 344
Photography in Relation to Painting, 350
Photography, The Object of, 484
Photo-Mechanical Printing Processes, 258
*Photosphere Camera, 29
Picture It! (Poem), 404
Picture Our National History, 9
Pittsburg Amateur Photographers' Association, 177
Pittsburg Amateur Photographers' Society, 229
Pittsfield Camera Club, 279
Platinotype Cold Process, The, 406
Platinotype Process and the New York Amateur, The, 158
Platinotype Process with Cold Development, 391
Platinotype Up to Date, The, 498
Portland Camera Club, 81, 173, 228, 270. 562
Portraiture, 16
Printing-Out Papers, 456
Printing? Shall Amateurs Do Their Own, 399
Prize Competition, A, 85
Prize Print Interchange, American, 125
Providence Camera Club, 299, 279
Publishers' Department, 45, 85, 232, 280, 328, 376
Pyro Development and the Preservation of Pyro, 149

PAGE
Queens County Camera Club, The, 190
Question of Selection, The, 4

Recent Exhibitions, 30, 82, 126, 168, 215, 268, 316
Recent Researches in the Solar Spectrum, 161
Road Photographs, 545
Rochester Camera Club, 321
Rockford Camera Club, 229, 279

San Diego Camera Club, 420
Savannah Society of Amateur Photographers, 228
Schuylkill Camera Club, 512
Seasonable Hints, 208
*Section of Heliochromoscope, 537
Sensitiveness of Plates, Record of the, 264
*Shutter, A Simple Camera, 304
Slide-Making, Practical, 191
Slide-Plates, Experience with, 61
Society News, 39, 70, 114, 170, 220, 272, 318, 372, 415, 462, 507, 552
Society of Amateur Photographers of New York, 39, 71, 114, 170, 227, 272, 318, 463, 507, 557
Society of Amateur Photographers of New York, Announcements, 107
Some Interesting Facts, 210
Springfield Camera Club, 464
St. Louis Camera Club, 179, 230, 279, 325
*Stereoscopic Prints, Why are Transposed, 482, 528
Summer Vacation, A Useful, 264
*Suspension Bridge at Spuzzum, B. C., 527
Syracuse Camera Club, 30

Teleo or Long-Range Photography, 112
"The Amateur Abroad," 1
*Through Norway with a Camera, 103
Time Attachment for Cameras, 210
Toledo Camera Club, 41, 230
Toronto Camera Club, 82, 229, 325
Training of Photographers, Deficiencies in the, 392
Trip Around the World, A, 264

Visitors, Our, 414

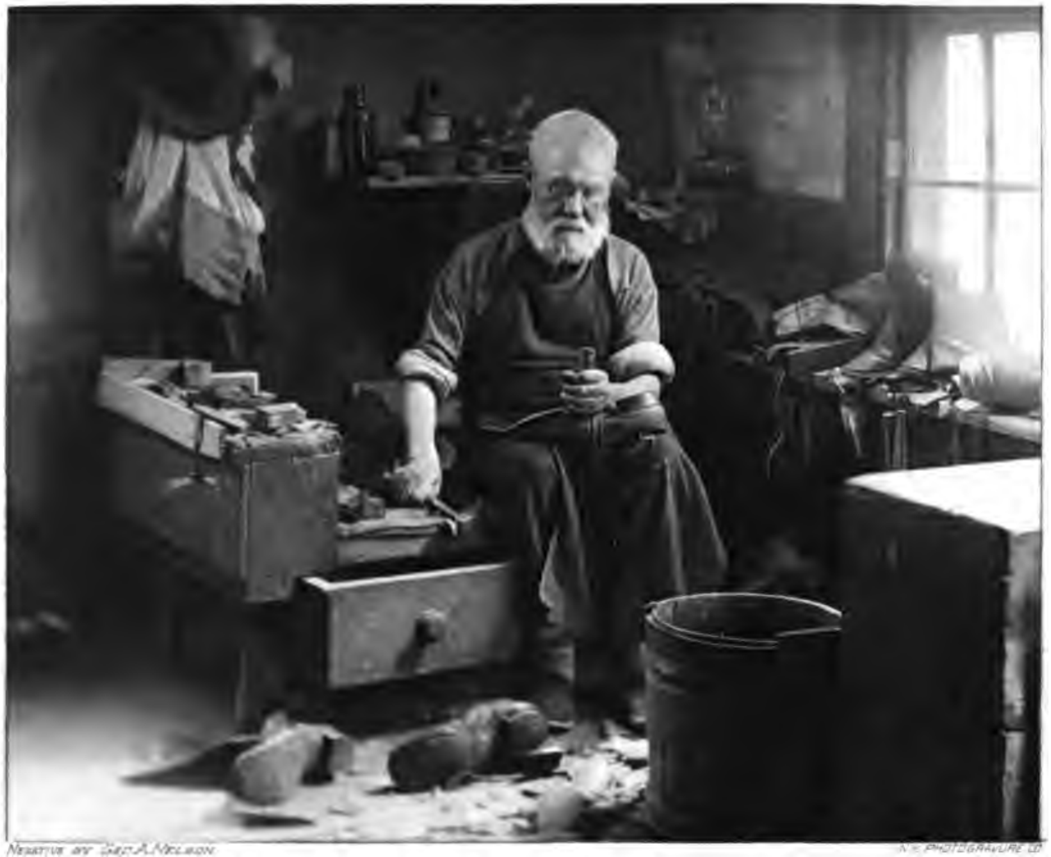
Washington (D. C.) Camera Club, 229
*Webster Lake, 10
Worcester Camera Club, 278, 321, 416, 465, 512
World's Fair, Amateur Photography at the, 108
World's Fair Exhibits, 460
*World's Fair Grounds, A Camera in the, 409
World's Fair Grounds, Admittance of the Camera to the, 501
World's Fair Photographic Privilege, The, 64, 306, 365, 370, 411, 446, 459, 497, 547, 550
World's Fair Photographic Privilege Petitions, The, 408
World's Fair, Photography at the, 64, 112, 165, 265, 407, 412
World's Fair, Photographing at the, 459

*Illustration or illustrated.

MISCELLANEOUS ILLUSTRATIONS.

PAGE
The Village Blacksmith, 1
Yacht "Minerva," 48
To-Morrow Will Be Friday, 87
Apparatus for Making Lantern-Slides, 101
The Takiv Camera, 115
By Still Waters, 135
Rochester Hand Camera, 172
Making Friends, 183

PAGE
Old Toll House, Medford Turnpike, 216
The Seal Rocks, Monterey, 239
The Young Violinist, 287
Cortina, Switzerland, 335
A Bit of Lake George, 383
"Weary," 442
Noontime, 477
Miss Barnes at Work, 488



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THE VILLAGE COBBLER

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[illegible] PHOTOGRAPHER

Painted by [illegible]

THE AMERICAN

AMATEUR PHOTOGRAPHER.

A Monthly Review of Amateur Photography.

VOL. IV. NEW YORK, JANUARY, 1892. No. 1.

Our Illustration.

IN PRESENTING a reproduction of Mr. George A. Nelson's noted photograph, "The Village Cobbler," which took a medal at the New York and Vienna exhibitions of last year, we are sure our readers will discover its attractive points without our calling attention to them. Skillful lighting, naturalness of pose, and wealth of details constitute the prominent features. It is an interesting and artistically arranged picture, and worthy of careful study. It was made with a No. 2 Voigtländer Euryscope lens, on a Seed plate and developed with pyro and soda.

◆

"The Amateur Abroad."

BY CHARLES SIMPSON.

UNDER the above heading there appeared in one of the previous numbers of "THE AMATEUR" a well-written article by Mr. R. E. M. Bain, which I have just read, after returning from a prolonged trip through northern Europe. His article both interested and surprised me, particularly as his experiences are quite different to mine.

Believing it might interest and even benefit some of our amateurs who may intend crossing over to this continent with a camera in the spring, to hear another version as to the experiences of "an amateur abroad," the kind of outfit taken along, and the difficulties, if any, found in the way of taking photographs over here, I will give a somewhat detailed account of my rambles and of how I fared while photographing on the Continent.

Mr. Bain, it seems, started off with a 6½ x 8½ camera and nine dozen plates, finding such an outfit "not a very formidable addition to one's baggage," though, as he says, the weight was over fifty pounds. A "guide" would always take charge of his photographic traps during the trip, besides which he found that "a servant could be secured for a few cents for the entire day." In speaking of photographing he says: "On the Continent it is somewhat difficult to gain permission, as the local authorities are very particular, and the presentation in advance of a passport, accompanied by a written request to the proper authorities, are usually necessary. In Paris, Berlin, and most of the principal cities it usually takes a week or more to obtain a permit."

So much for Mr. Bain, whose experience I have taken the liberty to cite, in contrast to my own.

On leaving New York a year and a half ago for a three years' trip abroad, I, like Mr. B., took a 6½x8½ camera along, fitted with a Prosch Triplex shutter and four lenses of different focus. I brought besides a 4x5 hand camera with a 6-inch R. R. lens. Since here I have perhaps made over one thousand exposures, of which about 975 come to the share of the hand camera. Much as I like and much as I prefer a 6½x8½ camera, particularly for landscape work, yet while traveling in all directions over the Continent, changing cars or other means of conveyance, often many times a day, it did not take me very long to vote my landscape camera a cumbersome nuisance as a traveling companion. My elegant 6½x8½ outfit, lenses and all, repose quietly here at my headquarters in Dresden, only to get an occasional airing when I am not "on the road."

I never, like Mr. B., travel with a guide (another nuisance), nor was I ever so fortunate in finding a servant at a few cents a day to carry my traps, but I paddle my own canoe and require no assistance. I carry my 4x5 hand camera, six plate-holders adapted for the size of plates in vogue here (9x12 centimeter), two small bottles of stock developer, a changing bag, and a very light tripod, all in a carrying-case which can be slung over the shoulder. A medium-size traveling valise holding necessary clothing, a couple of small rubber pans, a little hypo, a folding dark-room lamp made of pasteboard, and about four boxes of plates, complete my traveling outfit. This is the final result I have attained as to what to carry along, after many months of experiments. I buy my plates as I go, knowing the qualities of the different brands in the market here, and whenever I have accumulated a few dozen of exposed plates I forward them by post or express to my headquarters, and never allow myself to become encumbered in any way.

As to the question of obtaining written permission for photographing on the Continent, it is a matter of some importance to those carrying cameras, and I will therefore state my experience as to the countries visited.

I have never been asked for a permit nor in any way interfered with while taking photographs in the streets of any capital, city, or town of the following countries: Norway, Sweden, Denmark, Holland, Belgium, Germany, France, Switzerland, and Italy. I never made a secret of what I was doing, setting up my tripod for time exposures when necessary, and outside of the usual curiosity displayed by the natives, I met with no annoyance. As to Paris and Berlin, especially cited by Mr. B., I will state that I applied at police quarters in Paris for a permit on my arrival, but was told that permits were no longer required, so I went right on with my work. This was in January, 1891. As to Berlin, I never applied for a permit, but took photographs anywhere and everywhere, even in the court-yard of the palace, with the knowledge and consent of the commanding officer.

Of course it is altogether a different thing if you desire to photograph interiors, or any enclosed ruins or castles within private grounds. For instance, at Rome, while the taking of photographs is permitted in the thoroughfares, a permit must be procured for photographing the ruins within enclosures, such as the Forum, the baths of Caracalla, and similar places. Permit is obtainable at "Accademia di Belle Arti," Via Ripetta, free of charge, generally by simply handing in your visiting card. This permit is most useful, as it covers the whole province of Rome.

For the benefit of those going as far south as Naples, and intending to visit Pompeii also, I might state that no permit is required for photographing within the walls of the "dead city." Free tickets can also be obtained from the secretary of the Naples Museum for prolonged sketching or photographing among the ruins of Pompeii.

A few words may not be out of place as to photographic plates abroad. English sizes are rarely obtained on the Continent, and when they are, you find them to be of an inferior make, as a rule. Experience has also taught me never to have plates cut by a dealer, unless you want scratched, badly cut, or fogged plates. A better plan, and one which I most strongly would recommend, is to have kits made for your holders before starting over, to fit the sizes here. For instance, for a 4x5 holder get kits to fit a 3½x4¾ plate (9x12 centimetre), which enables you to buy your plates in any town on passing through. There are no end of plate manufacturers on the Continent. I will enumerate and describe some of the brands of dry plates most generally kept by the dealers:

Monckhoven, the dearest and perhaps best of German plates, but hardly rapid enough for instantaneous work. *Westendorp & Gebhardt*, Cologne, a safe plate, rich in silver, and quite rapid. *Weisbrod*, Frankfort, much used in Germany; sufficiently rapid; gives great density; requires less pyro than most other brands. *Schippang*, Berlin, very good plate, but not always uniformly cut. *Schleussner*, Frankfort, without any special fault, except a tendency to frill; a favorite among some of the German amateurs. *Unger & Hoffman*, Dresden, a clean plate, but not very rapid; fogs easily in development; cannot be recommended. English sizes on hand of this brand. *Nys*, a cheap but very good Belgian plate; I found it very satisfactory while in Norway last summer. *Lumière*, Lyons, the well-known plate receiving first prize at the Paris exhibition; dearer than most other brands, yet I prefer it to any other plate here. Unfortunately they are only obtainable in a few of the larger cities.

I have in a previous communication spoken of amateur societies on the Continent; will therefore only remind our American amateurs of the fact that in all the countries visited I only found two societies occupying quarters of their own. "Associazione degli Amatori di Fotografia," at Rome, with a membership of 96 active and 26 corresponding members, occupies pleasant quarters; has a very fair dark-room, meeting-room, and a well-appointed portrait gallery, with large sky-light. "Photo Club de Paris," 40 Rue des Mathusins, has about 160 active and corresponding members. They occupy very centrally located quarters, consisting of meeting-room, library, committee-room, dark-room, with lockers for the members, and they possess a splendidly fitted up and lighted portrait gallery, 12x28. Foreign amateurs calling at either of the clubs mentioned are received with the greatest courtesy and given "the freedom of the dark-room," if so desired.

Believing that any facts or experiences relating to amateur photography, gathered in foreign lands, would be of interest to the readers of this journal, I have written the above article, and trust that others, like Mr. Bain and myself, who travel about with a camera, may come forward and contribute their share of individual experience on the subject of "An Amateur Abroad."

Dresden, November, 1891.

The Question of Selection.

[Read before the Syracuse Camera Club, October 30, 1891.]

BY CATHARINE WEED BARNES.

I AM beginning to feel under the same necessity as the minister in one of Mrs. Stowe's books, who was said to trim up his old sermons with new collars and wristbands, especially now that my stock of photographic information greatly needs replenishing. This question of selection appears to me worthy of consideration, not in a Darwinian sense, but as being fitly applied to the photographic field. Nothing really valuable ever *happens* in photography, but all that is so springs either from well-considered choice or a naturally quick instinct trained by observation to recognize and take advantage of opportunities. There is really no such thing as chance in camera work, it is only being always wide-awake enough to know good fortune before she has passed by you. Whether it be in choosing what branch you will learn, what instruments or materials you will use and how to use them, the greatest care should be exercised in looking at the subject from every point of view before decision. Make no random or ill-considered exposures and, even with snap-shots, where the exposure is so short, either give plenty of time beforehand to composing the picture, or train yourself to judge quickly as to proper distance and other technical details so that they need not hamper you in gaining a good result. In one sense it is absurd to say you must, by necessity, photograph things as they actually are, but, in another sense, you do that very thing although, even with landscapes, it is possible to do considerable arranging beforehand. If the trees, etc., cannot move, the camera can, often with striking effect.

Recently I was in the country, view-taking, with a fellow-amateur, having my 8x10 Universal camera and half a dozen double plate-holders. Several times we stopped to take observations and, after a preliminary survey I would set up the camera and focus awhile, only to unscrew it and decline making an exposure. To my friend's surprise, the afternoon's work only amounted to four exposures, but they were worth forty carelessly selected views. In landscape work, if you have a good instrument, the question of selection as to point of view is half the battle. About half the landscapes taken are useless as objects of art because of neglecting this fact and, indeed, worse than useless, positively harmful. in encouraging the camerist to be satisfied with "well enough" instead of aiming at perfection. Ten to one he never will reach the latter, but he certainly will not if he lay the flattering unction to his soul of being easily satisfied. Let your mind be receptive and information will come to you from every side, but you must select .with judgment what will best help you. It has seemed to me if every one was willing to help him who wishes to learn, and it would be well if more thought was given to attaining success by focusing one's attention on the object sought than by continually glancing aside to see if some one else was not catching up in the race. Undivided attention to one's own progress, steady, upward progress, is better than ever fearing some one will get ahead of you. What if that does sometimes occur. If the work is better than yours, find out wherein its excellence consists and choose from the other's experience what will practically benefit you.

Careful selection is more easy with interiors than landscapes, but it is even more imperative, as trifling defects which would be overlooked in the latter become very obvious in the former and you can rarely get sufficient distance to secure the best effect. One badly placed bit of furniture or decoration may utterly ruin an otherwise fine interior, and I have grown to have a kind of horror of tables, sofas, and chairs without visible means of support. If any particular piece is too large to appear well in the picture, try if possible to remove it entirely rather than have only a part show. Do not have many large pieces visible unless you can put them so far off as to appear of reasonable size, and do not allow different objects to interfere with each other and confuse the eye. Arrange and re-arrange, focusing every time, until a harmonious result is reached and then, if time permits, make a trial exposure first and develop it before the decisive one. My average exposure for an interior is about an hour, with medium stop, and, in one difficult case, I once made seven exposures, requiring three days' hard work, as each time some little point had been overlooked and, strangely enough, I do not like to fail in what I undertake. Selection of a lens has a very important bearing on an interior, and if half the landscapes taken are useless as artistic pictures, fully two-thirds of the interiors are the same, and without value except for their associations. Of course work can be done with an ordinary view lens, but with the best Rapid Rectilinear, owing to lack of distance, there are apt to be grotesque effects produced by the furniture often being, as I stated, too large, the ceiling and floor not being both shown and other disadvantages. Such a lens works more rapidly than a wide-angle, which is a good thing, but the latter is most useful for such work. It should, however, be the best procurable and used well inside of its limits. I prefer one listed to cover the next size larger plate than the one used. Do not, through false economy, be persuaded into using a smaller one, as the fact is readily detected in the picture by the curvature of the outer vertical lines. A very wide-angle crowds things on the plate and brings the foreground and distance nearer than is strictly correct but, although this can be utilized sometimes so as to make the defect a virtue, it ought to be remembered that it is a defect and therefore the greatest care is required. Select carefully, also, what stop you will use and never try to make up for insufficient focusing by depending on a small stop to give good definition. The smaller the stop, the denser the shadows, and just as large a one should be used as will allow sharp definition, which is an absolute requirement with interiors. The feeling of atmosphere is not necessary as with landscapes or portraits. It would appear as if a new opportunity was to be offered, in this line of work, by Mr. Prosch's flash lamp, which admits of a continuous light and time exposures, allowing hitherto unobtainable parts of rooms to be photographed and including groups not possible with the ordinary time of exposure. Artistically this fact removes one strong objection to using the flash light, as will readily be seen.

Passing now to the most difficult and attractive branch of the work, study of the human form divine, the question of selection presents itself at every step. I would not ordinarily advise trying to do strictly portrait work, and also, illustrative work, where the element of imagination must play such an important part. The average brain has not usually had enough circus training to do two things at once and, if it does not absolutely fail in one or the other case, it is apt to do some injustice to both. I have not time to consider the latter, although it is really my special work, but will speak only of simple portraits. The choice of pose and expression is perhaps the main thing, but hardly less important is the selection of costume, the lighting of face and figure, whether the lens shall be inclined upward, downward, or on a level with the sitter, how much of the figure should be taken, and how large it ought to appear on the plate. The majority of figures and faces are taken too large for the plate and, if I have a preference, it is not to see arms without hands, all the figure but the feet, or a hat so large that part of it is out of the picture. If a certain size plate and a certain size hat must be reconciled, use a wide-angle lens. I usually under such circumstances, or when I act as sitter and operator, use my wide-angle Voigtländer Group lens, as it requires a shorter tubing than a Rapid Rectilinear. Some heads, especially of young children, should never be taken very large, as it gives an incorrect idea of the sitter, making a child seem much older than it really is and with a grown person of short stature increases his apparent height. The mind, unconsciously, fills out the unseen figure to match the head. It stands to reason that a careful photographer, studying every day the constant variations in the physical peculiarities of his sitters, ought to be able to judge more quickly and accurately on these points than the sitter who, after all, never really sees his face as it actually is, even in a mirror, until his photograph is before him. I have heard the expression "the brutal fidelity of a photograph," and there is a certain truth in it. If the sitter would not only allow the operator to carefully arrange his pose, but help matters by letting his nerves and muscles relax, remembering, however that an easy position does not necessarily mean an ungraceful, lounging one (which seems some people's idea of ease), and not making him uncomfortable by telling him how some other man worked, more pictures would be satisfactory than is now the case. Ease of attitude cannot be forced, but the operator feels sometimes like shaking it into his sitters. It does not seem to dawn on some people that they are much more than lay figures or have any obligation to do more than sit still. If they only would remember to always do that! In selecting the style of pictures desired, sitters are very apt to make the mistake of asking to be taken like some one else's portrait, which is perhaps not at all fitting for them. As a general thing, each one has an individuality of presence as of character and this should not be merged in that of another person. Take your own special individuality and make the best of it, but do not imitate.

In closing let me say that this question of selection opens up that of sympathy in and with the object for which one works, that deep sympathy which is akin to instinct, or rather inspiration. It can guide one as well through the scientific as the artistic part of photography and fill the most prosaic details with interest. Choosing a lens or camera and even making the latter should be as elevating as designing a picture, especially when one realizes the mental processes involved, the brain force which guides the skillful hand, and the quick response of nature to the will of man. If one stops to consider what infinite care and study go to the making of a fine lens, is it possible to handle one without a kind of reverence for its power and the mind which could create it? Regarding one's tools in such a light as this can easily make one look unfavorably on those which tend to throw discredit on photography by making it merely a plaything. It is like seeing in a cheap form of advertisement a copy of some beautiful painting or, to borrow an analogy from classic mythology, Hercules is again obliged to serve among the slaves of Omphale.

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Toning and Fixing Gelatino Chloride Prints.

WHILE the favorite method of toning these prints, whether made on omega, aristotype, or obernetter paper, is to combine the solutions into one bath, we think, possibly a greater variety of tones may be made by using separate solutions, and what is to recommend this plan is that the toning bath will keep well, only needing slight additions of the gold solution to keep up its working strength. The prints are first washed in one or two changes of water, and then toned in a mixture of the following toning baths:

BATH No. 1.

Distilled water, ...	35 ounces.
Double crystallized acetate of soda, ...	1½ ounces.
Chloride of gold solution (strength 1 grain to 1½ ounces of water), .	3 ounces.

BATH No. 2.

Distilled water, ...	35 ounces.
Sulpho-cyanide of ammonium, ...	¾ ounce.
Chloride of gold solution (strength 1 grain to 1½ ounces of water), . .	3 ounces.

The solutions are to be kept separate, and when ready for use may be mixed by adding 2¼ ounces of No. 2 to 7 ounces of No. 1. The bath as mixed will keep clear, and as it slows in toning, more of the gold solution can be added.

To judge of the right tone, the prints should be examined by looking through them, or by transmitted light. When it is obtained they are removed to fresh water, washed a minute or two, and placed in a fixing bath of

Water, ...	1 ounce.
Hyposulphite soda, ...	5 ounces.

The fixing is completed in one or two minutes, then the prints should be washed for an hour in frequent changes of water, and finally place them in an alum bath for about three minutes, made as follows:

Water, ...	35 ounces.
Powdered alum, ...	1¾ ounces.

They should now be washed in six or eight changes of water until the milky color in the water disappears. They may then be washed for an hour or so, or left in the water over night.

In toning and fixing, the gelatine surface is apt to become defaced unless care is used in handling the prints by the corners, or in raising them to be examined by a horn or bone paper cutter, with latter at the back of the print, allowing the thumb to press the corners of print against the horn. The prints are mounted in a similar manner to albumen, except a soft chamois skin well washed, and wrung nearly dry, is used to wipe the prints off instead of a sponge. The chamois should occasionally be wrung out.

To give the prints a glacé appearance they should be first dried spontaneously, then immersed in (water 32 ounces, alcohol 3½ ounces) and laid down on a sheet of plate-glass, previously cleaned with talc, or upon a hand-polished sheet of hard rubber, and allowed to dry naturally. If ground glass is substituted for the polished glass a mat surface will be given.

In spotting the prints, which should be done before burnishing, india ink, to which a little albumen has been added, should be used, and the prints after spotting should be run through the burnisher, first while it is cold and then when heated, as otherwise the retouched spots may be removed.

It is obvious the foregoing method of procedure is better adapted to a number of prints operated upon at a time than to a few. Probably to many the combined bath will be the simplest, where but half a dozen prints are to be treated.

Picture Our National History.

BY M. Y. BEACH.

HISTORIANS of this country, if, in the strict sense of the word, it can be said to have a history, frequently find difficulty in obtaining reliable data relating to the events of the past. Many facts concerning the American Revolution, presumably of profound interest, are beyond recall because of the indifference of our ancestors in preserving any records in which a statement of the facts might have been incorporated. An instance of this indifference was recently made public by an antiquary, who found in the shop of a junk man a large number of documents bearing on Burgoyne's invasion of New York and Vermont. These documents were prepared by actors in those stirring times, and have a lively interest for the historically inclined, and are of undoubted value as part of the history of the Revolutionary War.

It is not only entertaining but instructive for us to look into the past and see what our forefathers did. So will it be with our descendants, and in view of the entertainment and instruction of future generations, the amateur photographer can go one better than his ancestors by leaving collections of pictures relating to striking events in our time, which may have some bearing as historical considerations in the years or centuries to come. If one of General Grant's staff officers had operated a detective camera successfully when General Lee surrendered his army, our history would be much the richer for it to-day. And how much more would be our interest in the account of this episode did a picture accompany it. Well I remember my interest in a photograph of Grant and staff, taken in the field. It was the next thing to really being among those distinguished generals as they stood about their chief in their rough service dress.

So thoroughly are amateur photographers organizing throughout the country that in time, possibly, we may hope for a historical department in their national society, whenever that organization may appear. And in this department let there be gathered photographs of every important public event, to be preserved by the nation's authorities, if need be. Such a collection will help historians of the future.

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Webster Lake.

BY E. F. WHITMORE.

THE original Indian name of this lake is so lengthy and unpronounceable that I will leave it to the imagination of the reader. No sheet of inland water is better adapted for an outing than this lake conveniently situated two miles from Webster, Mass., on the New York & New England Railroad, Southbridge Branch, connecting at East Thompson, Ct., with the main line, and is readily accessible from Boston, Worcester, Providence, and intermediate points.

Good fishing, excellent camp sites with handy supplies from the neighboring farm-houses or furnished cottages, picturesque scenery all go to make up a very attractive resort.

To the camerist the lake is a bonanza, consisting as it does of three small lakes connected by narrows, or strips of water, a hundred feet across. The shore line is a succession of deep bays and projections of land extending far out into the lake, innumerable windings and turnings, away out into the marsh of the lowlands, under the dark pines of the hill-side by pleasant farms, along sandy beaches, through all phases of scenery that delight the

POINT BREEZE.

eye of those who can appreciate beauty in nature. In extreme length the lake is probably over three miles and at points is over a mile wide. The surface is dotted with a number of islands, large and small, upon some of which are substantial and artistic summer residences, nestled among the pines; upon others just the tent or cabin of a party of fishermen or jolly crowd of schoolboys, while skipping along the rippling waters may be seen the fleet of sailboats dipping their white wings in the water under the breeze that comes rushing around the point. One of the most prominent locations at the northern end of the lake for parties is known as Union Point. Having extensive grounds in a beautiful pine grove, it commands a fine view of the lake. A mile south is Point Breeze, and it is well named, for on the high bluff a clear sweep is obtained in every direction. The view of the lake and the surrounding country, also of Goat Island, is charming. Steam launches, row-boats, and sail-boats are plenty. The fishing at the lake is excellent. Black bass, pickerel, and their humbler brethen, the pout and perch, are abundant and of good size. The bass are from one-half to four and five pounds in weight; at times are readily taken, although any bass fisherman of experience will tell you they are a good deal like the old saying, "When they will, they will, and when they won't, they won't, and that's the end 'on't,'" and the question most often carried from boat to boat is, are the bass biting to-day? For bait the helgramth or dobson is used, also crickets, worms, frogs, and live bait. A small, lively shiner or perch is a safe bait for the big bass. They run in schools, and after waiting all day without a bite, the discouraged fishermen may suddenly begin catching them right and left. The favorite locations for bass fishing are just off the points where the sandbars slope down to deep water on gravelly or rocky bottom. Here in ten or twelve feet of water the bait is dropped to within a few feet of the bottom, and gently kept in motion by drawing from side to side, or up and down. When a bass takes the bait don't be in a hurry, give him plenty of time to swallow it, and as he starts away with it a quick, hard pull will fasten the hook in his bony jaws. About that time the bass will have something to say about it. The instant he feels the point, like a flash he starts for the top of the water and with a spring throws himself into the air, shivering like mad; turning back

A FOUR-POUNDER.

A GLIMPSE OF THE SHORE.

upon the line to dislodge the hook, he plunges into the water again this way, that way, under the boat, around the anchor rope, heading for every old stump or rock to tangle himself up and break away. When at last, exhausted, he gives up the fight and is drawn to the net, you feel almost sorry to conquer such a noble foeman after such a gamy battle against heavy odds. Thus the sport goes on. What more does the seeker after health and pleasure ask for? A beautiful lake, fine scenery, good sport, outdoor life, if these don't make a new man of you I will give you up. Try it and see for yourself.

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THE
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EDITORIAL COMMENT.

Our Change of Office.—In beginning the fourth volume of the AMERICAN AMATEUR PHOTOGRAPHER we have the satisfaction and pleasure of becoming associated with the OUTING COMPANY, publishers of OUTING, the popular magazine devoted to the encouragement of amateur sports, pastimes, travel, and recreation. This company will henceforward be the publishers of our magazine. Every effort will be made to increase the scope of its usefulness among those practicing photography as amateurs; its columns will be open to the discussion of all branches and applications of photography; it will be the aim of the editors to illustrate new apparatus; to publish results of important new experiments; to invite subscribers and others to contribute to its columns their mite of experience; to give reports of the society news; to promote competition in photographs, and in original experiments; to encourage the holding of exhibitions by photographic clubs, and to publish fair criticisms on the same; to illustrate sketches of travel, and in various ways to encourage the amateur to do better work and gain better information.

Our new publishers will spare no effort to improve the magazine in many ways, which we expect will raise its established standard to a still higher degree. The same experience and business push which has placed OUTING in its present favorable position and importance with pleasure and pastime seekers, will be put into the "AMERICAN AMATEUR," and we hope will be the means of bringing it to the attention of every amateur photographer.

In making the change we regret to note the retirement from our editorial staff of the Rev. W. H. Burbank, who, with our Mr. F. C. Beach, founded the magazine. The present editorial management feels itself competent to cope with the task of making the AMATEUR PHOTOGRAPHER such a publication as amateur photographers need, and will devote their time zealously to this purpose.

Our new office will be under the supervision of Miss Barnes, but the work of the magazine will be equally borne by herself and Mr. Beach. Our friends are cordially invited to visit us, and to aid in contributing prints or examples of work to our office album. All communications should be hereafter addressed to "THE AMERICAN AMATEUR PHOTOGRAPHER, 239 Fifth Avenue, New York."

Our Boston Agency.—Our many friends in Boston and vicinity will receive attention by calling upon or sending to Mr. John H. Thurston, No. 50 Bromfield Street, Boston, Mass., who has consented to take subscriptions and supply single copies of the magazine when called for. We can rely upon his filling all orders promptly.

Reproducing Photographs in Natural Colors.—In a previous number we alluded to Mr. F. E. Ives' process of showing photographs in the color of nature, which was based on the principle of blending three separate identical transparencies, before which was a colored screen respectively of red, green, and violet, upon the screen, having each image coincide when superimposed over each other. Since he first exhibited his process for the Franklin Institute, of Philadelphia, he has gotten up a special camera for taking simultaneously three images on three plates, each color sensitive to the blue, the red, and the green. Thus are brought out negatives showing details more or less prominent in the respective colors of the foliage, the blue sky, and browns or reds.

By making lantern-slides of exactly the same size from the three negatives, and transmitting through them the respective colored lights of which the negatives are intended to represent, what is equivalent to white light is reproduced on the screen, but the greens appear green and the blue most delicate. In fact a finer gradation is said to be obtained than is possible by any hand painting.

Mr. Ives was so enthusiastic in the success of his idea, that he secured the services of an amateur photographer, Mr. W. N. Jennings, and went with his color camera early last autumn to the Yellowstone region and secured a number of color registered negatives.

The result of the work was shown before an interested audience, at the

Hall of the Franklin Institute, Philadelphia, on the evening of December 18th, and is reported to have been highly successful. The *Philadelphia Times* says: "The occasion was the first public lecture illustrated by the process of color photography invented by Mr. F. E. Ives. In view of the results shown, Mr. Ives holds that photography has been relieved of the reproach that it cannot reproduce natural colors. Those who have actually seen the natural beauties and marvelous coloring of the Yellowstone testify that his process accurately reproduces even its most vivid and most delicate hues."

We congratulated Mr. Ives on his effort to secure colors in photographs so scientifically, and no doubt experiment and experience will cause him to devise apparatus easily worked having the color reproduction efficiently worked out.

Orthochromatic and Isochromatic.—These words we hear nowadays much more than formerly. They both have the same meaning, but they require some study on the part of the novice to realize what their real interpretation is. The skilled photographer understands them as applying to dry plates sensitive to particular colors. Here, then is the solution of the difficulty. Simply throw them overboard and say, "Color-sensitive," a word that everybody can understand. "Color-sensitive" is no longer than the other words, yet it is more simple. natural, and explainable. We agree with our friend, Dr. Charles Ehrmann on the *Photographic Times*, the word "color-sensitive" should be used altogether.

Outing for January.—It is the holiday number, and is very creditable, fully illustrated, contains many interesting short articles on various sporting and athletic topics and a special article on "Winter Photography," by Mr. W. I. Lincoln Adams, in which are several well reproduced photographic illustrations of snow scenes and frost work. Other articles on "Amateur Photography" give the latest news and results of experiments, while "Amateur Photography for Women" is a new regular feature to be presided over by Miss Catharine Weed Barnes. She gives much practical advice, and as she expresses herself so clearly and instructively, her articles should command wide attention. Subscribers will receive *Outing* and THE AMERICAN AMATEUR PHOTOGRAPHER for $3.50 per year. Now is the time to send in your subscription.

The Maddox Fund.—We learn from our foreign exchanges that the fund is growing steadily. We shall be pleased to receive and forward subscriptions. Let every amateur begin the year by sending an offering. Dr. Maddox holds the honor of being the inventor of the present dry-plate process. On another page we give a copy of the official circular.

How to Copy a Blue Print in the Camera.—It has been our misfortune to have this problem brought before us in a practical shape, and in explaining how it was done we think we shall be able to demonstrate the utility of the modern color-sensitive dry plate. Any old-time photographer will say that it cannot be done because blue always takes white, and if you photograph a blue picture on a white background you obtain a black or opaque negative. Perhaps no expert photographer has made more experiments in this line than Mr. E. Bierstadt, and we are indebted to him for the practical solution of the problem. The principal object to be sought after is to cut off the reflection of the blue rays, and to do this a red screen of some kind must be used. If a thin red-tinted collodion film is laid over the surface of a blue print, one is visibly struck with the greater definition that is observed between the white and blue portions. As it thus appears to the eye so will it be in the camera. We placed behind a lens a sherry-colored film, having a diaphram in the lens of f–16 and in the plate holder a plate, color-sensitive to red. We then gave an exposure of three minutes; plates developed with pyro and potash and secured a negative, dense, full of contrast, equal in every respect to that of the print.

The rule is to study the best color of a screen complimentary to the object that is to be photographed and use that in combination with a color-sensitive plate, giving a liberal exposure.

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Portraiture.

[Read before the Photographic Society of Kansas City, October 28, 1891.]

By W. H. Perine.

I DO NOT know but that I launched forth a boomerang when I suggested at the last meeting, that one of us prepare a paper to break the monotony of a dull business meeting; any way, I find that I was hit pretty hard, as this has caused me no end of trouble and worry. In the first place there is a subject to select, and when you stop to consider the wide and varied field that our pet occupation covers, this is no easy task, but not to be compared with the developing and toning of that subject so as to form a picture pleasing to the ears of such amateurs as are the members of the Photographic Society of Kansas City. There is one field which I think is newly trodden ground to most of us, and, with our dark-room and studio which we are prepared to investigate in a way that will prove to be both profitable and interesting.

Portraiture work is, I think without dissent, the most intricate part of photography. The one in which the artistic eye and good taste of the man behind the ground glass shows to the best advantage. It is no trick to take a portrait. Put your model in a chair, in as good a light as possible, get the camera all focused and ready, tell him to "look pleasant," "smile just a little," now "that's good," expose your plate and there you are. This is very simple, but when you come to get a print off that plate and show it to your friend, the chances are nine to ten that *he* will either knock you down on the spot, or *she* will tell you that if you ever show that to any one the results will be very serious. To take a portrait that is a good likeness, graceful pose, in short a picture in every sense of the word, is no easy task. Has not this been your experience? How rare it is to find, in looking over an album, a good picture, and how, when you do run across one you admire it. A professional photographer is greatly handicapped in that he has to take every one that comes to him (and we all know how few good subjects there are), while an amateur has free scope, can choose his subjects, conditions, etc., and should, I hold with the same conveniences, take better pictures than the professional.

Of course we cannot all be Saronys, Fredericks, or Ryders, but with the fine sky-light we have here we ought, and will, turn out some very nice work. So I thought I would try and entertain you this evening with a few ideas and suggestions concerning portraiture photography that I have been able to glean from several good articles that I had at my command. Concerning subjects very little is to be said, as every man has his individual tastes. It would be very wrong to lay out any one line of action. Be sure and study your subject, watch his movement, his position and expression, so that when you have him under the sky-light you know just where you want to place him. A delay in getting ready, changing your model about in numerous positions, is almost sure to get him out of humor, and the more you change him the less decided you will become as to where you really ought to have him. Always try to be alone and have everything quiet. Nothing is more disagreeable than to have three or four fellows standing around, suggesting this or that way of doing it. I think our scheme of reserving the studio on certain hours is a capital one. One of the first considerations of importance in portraiture photography is the background of the portrait. It should be quiet, that is entirely devoid of all objects which, by their form or color, are conspicuous and obtrusive. We may have painted screens, decorative, or very plain, but they should all be so arranged that, while they may contain many objects of interest, they are always subservient to the people placed in front of them. When using a perfectly plain background for full length figures, it is a good scheme to have six or seven feet of the cloth coming from the bottom of the frame in a curve to the floor. This gives a clear, white effect, not showing the floor and the abrupt ending of the background on the frame, which always distracts from the effect. In portraiture it is particularly essential that the light should come from a point much higher than where the sitter is placed. The light striking the face on a level with it, destroys those shadows under the projecting features which give character of expression, and makes a flat, weak picture. On the other hand, if we have our light admitted through an opening, the lower part of which is about on a level with the head, and extending to a height of ten or twelve feet that the main body of light will come in at an angle of forty-five degrees or more, we generally get the most suitable lighting to show the features to good advantage and bring out a satisfactory likeness.

When the light is admitted directly over the head or from a source nearly perpendicular, the effect produced is peculiar and generally unsatisfactory, owing to its only striking the top of the forehead, cheek bones, and nose, and leaving all the rest of the face in shadow. The reflecting screen is used in lighting the dark or short side of the face, and it is better to place it a little in front of the subject, at an angle to the light and leaned over at the top a little. Care should be taken not to place it too near the sitter, especially if his face be turned towards the screen, because by reflecting a light into the shadow of the eye-balls, their depth will be destroyed and an unnatural, pale-eyed appearance given.

For the production of interesting portraits, either one or the other of two classes of heads are necessary, namely, the picturesque or the beautiful. Elderly people furnish the type of the former, and ladies and children that of the latter. Old men with long hair, large features, and great beards are always fine subjects, and will bear the most vigorous lighting. In such a subject, in order the most strongly to bring out the character, we should pose the head near the window, letting the light strike from high. The reflecting screen should be kept further back, so that too much light may not be reflected upon the dark side, thereby destroying that force of light and shadow which is the soul of such subjects, giving bold relief as it does, and forcing out the character. Elderly women, if intellectual and with rather large and well-formed features, make good subjects but require to be dealt with less forcibly. When we come to deal with ladies and children we encounter our greatest difficulties, and will find rules of the least value, often obtaining much better success by happy chance than by careful arrangement. In general, however, the lighting should be much softer in these subjects. Less light will be found better, and either lower or more diffused, which will be obtained by keeping the sitter further from the source of light. The reflecting screen now forms an important aid, and by it we must destroy those heavy shadows, which, as previously said, are the soul of the picturesque, but mar the beautiful, and while there should be light and shadow sufficient to give roundness, they must not destroy that softness and fullness which is inseparable from beauty. In that constant effort to obtain novelty, which seems now to be the pith of business, many experiments are made, and what are called tricks by artists are resorted to, to catch the fancy of the unlearned and unthinking, but while they may serve well enough for the time, being the object which is sought after, they never wear so well as those works of art wherein the rules of good taste and judgment have been followed. It is rarely that a head lighted on what artists call the short side of the face, which is the side turned away from the spectator, has so good an effect as when lighted on the near or full side. The reason of this is that lights make the impression upon the eye of advancing, while the shadows have the contrary effect of receding or retiring. Consequently when we have the further side of the face brightly illuminated, it seems to advance from its proper position, while the near side rather retires, and the result is a flattening, instead of a rounding of the head. This mode of lighting also has the effect of widening a face, and therefore may be resorted to by photographers in some peculiar instances where such an effect is needed. Constant care should be given to the securing of a proper amount of half-light and half-shadow. This is a matter belonging rather more to the timing of the exposure and developing of the image than the lighting. Under-exposed or under-developed plates are always lacking in half tones.

In the prints made from them one can only get high light and deep shadow, and the effect is harsh and disagreeable, and often destructive of a good likeness, and in case of over-exposure, while the chances of a likeness are not lessened, the work, from an entire prevalence of half tones, will be flat and uninteresting. It will be robbed of those touches of deep shadow and crisp high lights which are so essential in the making of a good work of art. Too little exposure would only be admissible in strong character heads, which we wish to be harshly and expressively set forth. With ladies and children there should be ample exposure and careful development. In fact, I think it is better to give a little too much rather than too little exposure, and to carry the development further than you would in landscape work. The greatest excellence to be striven after, and that most difficult of attainment, is where the numerous relative tones are given in all their refinement of gradations, as from a black coat or velvet collar to the white collar or bosom, these being the extremes, and the entire flesh tints being upon another scale within the range of these two, possessing hundreds of fine gradations of light and dark, but none so light as the white of the linen, or none so dark as the blacks in the clothes. The first quality noticeable in a bad photograph portrait is the entire absence of proper relative shades of difference throughout the work, the shadows of dark clothes, of furniture, of surroundings, and the flesh being one and the same in depth, and the lights upon the lines undistinguishable from those upon the hands and face.

Posing sitters for their portraits in respect to the most proper and agreeable disposition of the head, body, and limbs, is an exceedingly difficult part of portraiture. Even painters are seldom successful in giving a look of ease and dignity, although they are free to make any arrangements that may be best suited to their fancy, while the photographer, on account of the necessity of obviating as far as possible the effects of distortion by his lens, is hampered into disposing all parts, as nearly as possible, on the same plane, which adds greatly to the look of constraint. Foreshortening is an important element of the picturesque in art. To be deprived, therefore, in photographing a figure, of the benefit of having the arms or lower limbs extended towards you or receding is a great disadvantage. When we leave the single figure and attempt groups, we are absolutely debarred from making any of those beautiful arrangements, such as the old masters have left us. We must, on the contrary, adhere almost to the regularity of a company of soldiers drawn up in line for inspection. Attention now seems to be turned principally upon heads alone. In the old days it was fashionable to give us the man or woman as they looked from head to foot; now our photographers seldom go beyond half length, and in the case of men I think it is in better taste that we do so, for there is nothing more unmanageable than a man's legs in a pair of stiff pantaloons. With the ladies it is often much easier to get good full-length pictures, on account of the greater variety of their costumes and the interest to be derived from well-disposed drapery. In half-length poses a more easy balance might be obtained with the figure standing instead of seated, were it not for the difficulty of keeping still. In a chair persons are very apt to settle into a sort of loll, which is sure to destroy any look of dignity, and if asked to sit up are sure to get into an unnatural and forced position. There are those whose poses will always appear easy and graceful in whatever attitude they may take, but they are very rare, and one must call in play his wits and his patience to compensate as far as he can for the shortcomings of his sitters. It is a rare gift to be able to make your model feel perfectly at ease when posing for a picture, and one which we all should cultivate, for it is a most important factor for good results and graceful poses.

About retouching I will say very little, as I think very little should be done. Beyond erasing the small imperfections which appear in the skin, I do not think it good taste to do much. Sometimes by throwing the ground glass a little out of focus you can overcome a good many freckles, etc. A subject properly lighted should require very little retouching. Experience is the great teacher, and I think this applies especially to photography. So I hope that every member of the club will use the studio often, experimenting in the numerous and different ways of taking a picture, always striving to produce a work of art, rather than a mere likeness. From what I have already seen done during the past month, I think we have several artistic geniuses here amongst us, which our studio will develop and bring forth to the admiring gaze of the public and the world at large.

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Notes on Lantern Slides.

[Abstract of an address before the Society of Amateur Photographers of New York, December 8, 1891.]

BY WILLIAM M. MURRAY.

IN OPENING his remarks Mr. Murray explained how the size of the lantern slide originated in the square form, 3¼ x 3¼ inches, by stating that it was simply the cutting into two of the old-fashioned glass stereograph, two pictures 3¼ inches square on one plate. This is the size now prevalent in England to-day, but it was inconvenient because there was insufficient room to put on a title label. He had frequently seen the mats of English slides written all over in order to get the title on. The other size that used to be in vogue was $3\frac{1}{4}$ x $4\frac{1}{4}$, but this was longer than necessary and was largely used prior to the introduction of the dry plate. The standard size now used exclusively in America and adopted by the largest dry-plate makers is $3\frac{1}{4}$ x 4, which affords ample room for matting and labeling, and is convenient to handle. The label should be affixed on the right-hand side or end of the cover glass, with the writing facing inward, and the thumb label should be on the lower left-hand corner of the same. When the slide is taken up between the forefinger and thumb at the thumb label with the right hand the title is easily read before the slide is placed in the lantern. The thumb label and title label on the cover glass will then face towards the condenser when inserted in the slide carrier.

In making slides it is important that the length of the picture shall not much exceed $2\frac{7}{8}$ inches, though he had observed the rule laid down in the American Lantern Slide Interchange was that the diagonal of the mat opening should not exceed $4\frac{1}{8}$ inches, which was proper enough so long as the height of the mat opening is $2\frac{7}{8}$ inches, but when the height is reduced, the diagonal would warrant the length of the mat opening to exceed $2\frac{7}{8}$ inches. His advice, therefore, was to reduce the length of the picture to $2\frac{7}{8}$ inches, and let the height or width take care of itself. He explained the proportions of reduction from different sized negatives to the lantern size, and dwelt on the methods of making slides. There were two ways, contact of the sensitive dry plate with a negative in the printing frame, or through the camera. By the contact process an exposure of five or six seconds is usually given, about two feet away from a gas or kerosene light; longer if the negative contains strong contrasts and shorter if it is thin. A backing of black paper should be placed over the back of the sensitive plate before the back of the printing frame is clamped in position.

In the camera method, while it is commonly called reducing, he did not regard it so, since a portion of a negative can be enlarged up to the size desired for a lantern slide. By using a four-inch equivalent focus wide-angle lens for this work a very compact apparatus may be gotten up at small cost, and to tell how long a board would be required for ordinary work to support the camera and negative, he explained in detail the equation of the conjugate foci. For a lens of the above size he found an 8 x 10 negative could be reduced by using a board $23\frac{1}{10}$ inches long. On a moderately strong tripod such a board having a short slot in it lengthwise could be clamped, having guides tacked on its upper surface to guide the camera, while at the other end is a box, open at both ends, the front being provided with a rabbeted aperture for the insertion of different kits. Means could also be provided for pivoting the kit frame, permitting a negative to be tilted sideways, should it be necessary to have it come horizonal on the sensitive plate. A camera having the focusing done at the rear is to be preferred, also one provided with a rising front. The space between the negative holder and camera is usually covered over with a dark cloth of some kind, supported by a light rod or stick. The negative should face preferably a northern sky, though it is possible to obtain good results by facing a ground glass lighted by sunlight. A medium sized stop is used in the lens, and an exposure varying from fifteen seconds to one minute is generally given, according to the quality of the negative. Carbutt & Eastman slide plates are those generally preferred, though he has seen excellent work done on the Allen & Rowell plates. The Eastman plate appears to be the favorite among the slide makers of the society. The simplest developer is the best. Much depends on the negative, and the tone obtainable rests mostly with the exposure.

Gilder's phosphate of soda developer, though somewhat difficult to mix, produces purplish tones. The phosphate acts as a restrainer. Piffard's one-solution hydroquinone developer, diluted equally with water, always yields nice tones. The formula is:

Hydroquinone, ...	100 grains.
Sodium sulphite, ...	400 grains.
Potassium carbonate, ...	300 grains.
Water, ...	20 ounces.

An eikonogen slide developer is:

Eikonogen, ...	80 grains.
Sodium sulphite, ...	320 grains.
Potassium carbonate, ...	240 grains.
Water, ...	20 ounces.

For slides this must be diluted one-half with water, but for bromide prints it should be used full strength. Some prefer to use the pyro developer in making slides. The following is recommended:

Pyrogallol, ...	10 grains.
Sodium sulphite, ...	80 grains.
Carbonate of potash, ...	20 grains.
Water, ...	5 ounces.

When sal-soda is used, substitute 40 grains for the potash.

The ferrous oxalate is one of the best developers for slides, but it lacks the elasticity or latitude of the other developers. It is so well known that it is unnecessary to repeat the formula.

Concerning exposure and development, he advised giving as generous an exposure as was possible and to restrain the development. Formerly a tinted or muddy sky in slide making was regarded as a decided defect, but now in many cases such a tint is deemed an addition to the picture, since it brings out half tones more prominently and centers the interest on the bright parts, which should be clear glass. The shadows should be transparent but not flat. Judgment in developing was an important item to learn. Do not judge by looking through the slide, but by looking down on it in the developer, and carry the development along until the image should appear to be quite black. In any event the development should be continuous and not halt. With a liberal exposure and a weak developer ten minutes is usually required to develop a slide.

He prefers a fixing bath containing a clearer, one part of hyposulphite soda to six of water, particularly Cramer's fixing bath, though it is easy to make one by mixing with water a small quantity of sodium sulphite, to which add citric acid in solution until the smell of sulphurous acid is noticed, then add the whole to the fixing bath, strength one to six. Over-developed skies or dense portions in a slide may be touched or dissolved out by the use of a few grains of red prussiate of potash, dissolved in a five grains of hypo to one ounce of water solution, applied with a small, soft, camel's hair brush. He approved of varnishing slides with crystalline varnish, but both the cover glass and slide should be warmed to expel what moisture may remain on their surface before varnishing and before they are bound together. Usually cover glasses enough may be had by cleaning off old and poor slides. The white gummed binding paper has greater adhesive qualities when applied to glass than the black paper, for which reason he preferred it. It is so much easier to obtain mats of varying shapes and sizes already cut than to do it one's self, that it is advisable to purchase an assortment before beginning to mount. In this work of slide making it is necessary to insist on cleanliness and perfect neatness in all its variations.

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The Application of Photography to Surveying.

[Read before the Photographic Society of Kansas City, November 25, 1891.]

BY G. W. PEARSONS, C.E. (Member of the Engineers Club).

THE subject of photography applied to surveying is one not as yet taught in our technical schools, and there are probably few who can write or speak on it as teachers; of these few I am not one. Having had occasion to do some topographical work and having dabbled a little in photography as an amateur, I was interested in bringing them together by a work on the subject by Lieutenant Reed, U. S. A. To the engineer accustomed to the definite line given by his transit, the first idea of having the whole landscape on his table is likely to be received with mistrust, but when we recollect that some of the most important studies in astronomy have been forwarded very materially by photography, we may consider that in the much more accessible field of our work it may be equally useful.

It may be assuming too much to consider any one here wholly unacquainted with the subject, but it can hardly be treated except by going over the ground in a rudimentary manner.

The focal length of cameras best adapted to this work being from 12 to 15 inches may be imagined to represent an eye of that diameter and should therefore show its object somewhat more fully than the unassisted eyesight. The ordinary camera, however, has no means of determining exact locations, except relatively, and cannot be considered as in any manner dispensing with the transit.

The image formed on the sensitive plate represents a series of right lines passing through the center of the lens from the landscape to it. If, therefore, the plate is in correct position it will give a mathematically correct copy, capable of direct measurement, and to a much greater degree of accuracy than would be at first imagined. The sensitive plate can retain an exceedingly accurate image of anything it gets a wink at, but it is indifferent to the circumstance of position, and it makes no difference to it whether it rests on a granite obelisk or the quarter deck of a mule.

To become useful for purposes of precision, proper regard must be paid to the position of the plate and camera. The plate must be truly vertical and its edges truly horizontal. The first is of greatest importance, the last is important for the proper definition of the horizon and the connection of the plate with others.

The angle covered by the plate must be known, and it is of very material assistance to the work to be able to so direct the instrument that each plate will give the same lap on each edge. For this purpose the interval between the centers of any two pictures should be from two to three degrees less than the whole measure of the plate, not only because faults are likely to occur on the edges of the plates, but to afford means of accurately joining them by inspection of the similar objects shown on the edges of adjacent plates.

Engineers sought for more effective means of work than given by the plane table before photography existed, and even in its earlier stages made many efforts to utilize it. Now that the camera is so common an adjunct to the engineer's outfit, and so little trouble and uncertainty is found with its use, even by amateurs, it offers a help worth utilizing.

Supposing that the camera is found to show 38° on the plate, by allowing 1° on each edge for lap, we have for each plate 36°, or five for 180°, which is as much as is generally needed for one station.

This is about as given on the plates shown here, but I believe I should decidedly prefer 5 x 8 inch plates with a useful angle of 30°, which would require one whole plate for each 180°, but as these plates cost but one-half as much as the 8 x 10 and are almost always deep enough vertically, their lesser cost, lightness of transportation, and less liability to distortion on the edges of the plate on account of the lesser angle, will, I think, overbalance the added number of plates required.

These plates require that the center be correctly located, both vertically and horizontally, as they must be measured by a scale of tangents from the verticle center and horizon ; in ordinary use the camera is focused separately for each picture, but as differences of focus for landscape distances are very slight, the camera for this use is focused on a distant object and marked, so that all pictures are taken with the same focal distance and can therefore be measured by the same scale of tangents.

In Lieutenant Reed's instructions, as I understand them, he provides for marking the plates by inserting needle points in the plate holder so that the points will make a mark in the film on the top, bottom, and sides of the plates. I do not see how this is practicable with an ordinary camera, though it may be with one if made as an instrument of precision.

In the first place each plate holder would require to be provided with points, making a very serious job to fix say a dozen double plate holders so that they would correspond. Again, these holders hook onto the back of the camera and necessarily have some play, making, it seems to me, both a difficult and uncertain means of uniform register, to say nothing of the liability that some of the points may fail to make their mark.

I have substituted the following arrangement. The camera itself gives means of reaching within about $\frac{1}{8}$ of an inch of the sensitive plate. By placing needle points at the top, bottom, and sides so as to mark the verticle and horizontal centers, their shadows are thrown on the plates and are sure to be alike on all plates as regards the position of the camera itself, no matter how the plate may stand in the holder or the holder on the camera. The image of the needle is somewhat enlarged, but as the distance from the needle to the lens is perhaps 100 times that to the plate, the enlargement is not much and being uniform is not troublesome.

It remains to place the camera correctly. All my attempts to use the usual tripod have been failures. It is too light and the means of making uniform angles between the pictures and of insuring the leveling of the camera are too uncertain. I therefore made a table attached to the guard cap of the transit tripod, furnished with leveling screws, two levels and the edge marked into degrees, for convenience of making the pictures cover approximately equal angles. This being carefully leveled and having the stability of the transit tripod, enables a series of exposures to be made with a fair degree of uniformity, which is almost a necessity where it is required to join several pictures. By this means a long tangent scale can be used to cover any number of plates, care being taken to see that the centers of the plates correspond approximately to the centers of the corresponding tangent scales, and the whole read consecutively, which is much more convenient than a separate study of each plate.

It will be understood, of course, that to use such a scale the exposures must cover approximately the same angle, otherwise the centers of the plates would not correspond with the centers on the scale. Exact correspondence is not necessary because the size of each degree varies so little from the next that a slight displacement would not make any perceptible difference, as it is only the difference in their sizes that is to be considered and not the angular location otherwise.

Now, having our camera in order and as many plates as we want for the trip, we load up our camera and transit and with note-book and a few cigars are ready for the field.

Proceeding to our starting point we place our heel carefully, turning upon it and looking wise in several directions to assure our assistants that we know exactly where we are starting from, drive a peg, put a tack in it with like scrupulous care and set up our transit. With this we take such notes and observations as will determine salient points in the photographs, by which they can be adjusted and placed, and in this, as in preliminary R. R. work, it will be convenient to read directions from 0 to 360.

We now take the transit off the tripod and put the camera in its place, commencing at the left of the field. Having set it as we desire for the first plate we note the degree covered by the center mark on the bottom of the camera. Suppose it to be 19 degrees and our camera to cover 35 degrees, our successive settings will be 54, 89, 124, 159, 194, and so on, and though any one of them may be slightly misplaced, for a rough setting like this is not a transit direction, the error is not cumulative, and the note-book, by giving the direction of salient points in the different plates, enables the tangent scale to be applied to the whole correctly.

Here it will be proper to remark that the person taking these plates does not want anybody to help him or talk to him while he is doing it.

It is a very simple thing to take holder No. 1, fasten it to the camera with plate No. 1 towards the lens, draw the slide, make the exposure, replace the slide, and change sides with the holder for the next view; it does not take more than a minute or so, and but a few minutes to take a whole set in regular sequence, and all is O. K. But let some interested or interesting party assist, and it may be you will forget to turn the holder for the second view, and take two on the same plate, or you may make an exposure without drawing the slide, or become so interested as to take the holder off the camera without putting the slide back; or when you come to make an exposure, find the cap is not on and the camera has been looking out all the time you were making the plate ready, and another one is spoiled, and in general you will not know till you develop your plates whether you have got a full set or not, the old notice of no conversation with the man at the wheel applies just as well to the man at the camera.

Proceeding to the next point, a set of views is taken in the same manner, intersecting the first, the points of observation being known, these intersections determine any desired point in the field of view; the third station bears on the first two, the fourth on the second and third, and so constitutes a continuous triangulation, on which most points may be defined by three intersections. Any print determined by these interesections is also defined as to height by the tangent of its distance from the point of observation. The plates, therefore, give vertical as well as horizontal definition of the field, and with a degree of accuracy which will surprise the beginner.

In making these plates due care must be taken to so mark them that they will not get mixed. I have found that a steel point with which I could mark the number of the plate on the film before placing it in the developing bath is a means of making a mark that will not rub out and makes it easy to keep them in order.

Our plates being developed, the next thing is how to use them. For convenience we want positives, put together so as to form a continuous landscape; this is not strictly necessary, but is far the most convenient.

I have tried silver prints, bromides, etc., but find common blue prints better than anything else I have found yet. The silver prints give finer definition, but can only be kept in place by mounting with its inconvenience and added liability to distortion. The bromides are very expensive and give no better definition than the blue prints. The blue prints are very cheap and with the negatives at hand for reference, if needed, answer a very good purpose.

In making transit surveys with a view to assistance from photography, such salient points must be located as will give the most comprehensive views. The engineer then takes to his drawing table not the isolated notes of his field book, but a comprehensive view of the whole area of his work, which can hardly fail to be both of interest and use.

The blue print map of the bend in the Missouri was made from the accompanying blue prints from negatives taken from Fifth and Bluff Streets in this city, the foot of Minnesota Avenue in Kansas City, Kansas, and some other points not represented.

Some of the plates are faulty, from the camera leaking light, which was not discovered till too late; as they answered the purpose, however, and I had not time to repeat them, the smoky condition of the atmosphere making it difficult to get good views, I used them as they were.

In making views in the vicinity of the city, good definition of distance can hardly be obtained in the fall of the year. This will, however, seldom interfere with such distances as will be needed in usual work. In the spring the air is clearer and better definition of distance can be made.

For reconnoisance the camera offers some pleasant features. The public are always anxious to know what an engineer is doing with a transit, but if he has a map of the country and an aneroid in his pocket, so that by fences or otherwise he can tell pretty near where he is, he is only an amateur artist making views of scenery, and the farmer is not suspicious that he wants to run a railroad through his corn crib; such pictures, understandingly used, may help to decide where a line will probably be best, as far as the general features of the country is concerned, and many interesting and amusing incidents and situations will place themselves on the plate (with a little help) and make the work less prosaic.

Progress is the order of the day. It is not long since the engineer who used a camera to take occasional or semi-occasional records of the progress of his work was rather putting on airs. The blue print and camera have come in very handily, so handily that it is not the engineer who uses them, but rather the one who does not, who is the exception.

If some chap, tired of climbing the hills in San Francisco, had not got up a cable road, we might be hanging on to bobtail cars here; if some other chap hadn't got tired of climbing stairs and got up an elevator, we should need more ground for our cities and should have conflicts of jurisdiction between this town and St. Louis, or some similar trouble. As it is, the farmers still have some room left. All that helps to expedite our work is useful and this is one of the items. It will not, however, be likely to dispossess us of our transits very soon, though the engineer who becomes familiar with it, especially in such work as making close topographical surveys, will have a very great advantage of him who does not.

Toning Lantern Slides.

By Alfred Stieglitz.

MY LATE experiments in this line have led me to use the following formulas in toning dry-plate slides. Over-expose and develop in such a manner that the slide looks rather flat and under-developed. Fix in hypo, as usual, and then wash under a tap *thoroughly* (this is of importance to ensure success in the toning operations) for about five minutes.

Make up three stock solutions:

I.—Uranium nitrate,	1 part.
Water,	100 parts.
II.—Ferricyanide Potassium,	1 part.
Water,	100 parts.
III.—Ferric chloride,	1 part.
Water,	10 parts.

They are ready for immediate use.

A.—In order to get a *brown tone*, mix ten parts of I. and one part of II.; dip the slide into this and keep it there for about thirty to fifty seconds; then wash for two minutes and dry.

B.—For *reddish brown tones*, take equal parts of I. and II., and proceed as above.

C.—*Red tones* are procured by taking one part of I. and two parts of II., and proceeding as above. Be careful in toning slides with this mixture, as extra care has to be taken in order to keep the high lights clear. A trace of stain does not necessarily spoil a slide. On the contrary, such a slide often looks exceptionally beautiful on the screen. Judging slides by daylight results in misjudgments very often. The only proper way to see what a slide is worth is to project it on the screen.

D.—Green-blue tones.—After having toned the slide for at least two minutes in any one of the above solutions, A, B, or C, preferably B, wash for three minutes, and then place it in a solution of one part of III. and five parts of water, for five minutes; then wash. The resulting slide will be of a greenish-blue tone, very beautiful for certain effects.

E.—Prussian blue tones.—Instead of using one part of III. and five of water, as in D, use the stock solution III. as it is. This blue tone is very effective for seascapes, moonlight effects, etc.

This process of toning is simplicity itself, and I can only advise every slide maker to try it. In case old slides are to be toned, it is advisable to soak them a while in water, in order to be ensured against uneven toning, likely to result if the dry slide be directly placed in the toning solution.

New York, December 12, 1891.

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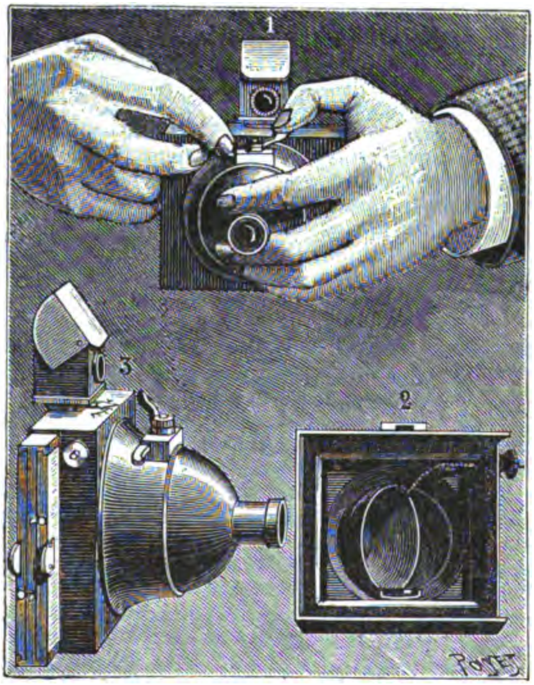
Photosphere Camera.

By T. G. H.

THE metallic camera, shown in the annexed engraving, has become very popular in France and is designed more especially for instantaneous exposures and for 2⅜ x 3⅛ and 3½ x 4¾ pictures. The camera consists of a small frame adapted to receive at its rear a double plate holder of usual construction, and on the front of the frame is secured a hemisphere made of thin sheet metal (brass) blackened on the inside. The objective screws on the front of the hemisphere and in the latter is arranged a hemispherical shutter more plainly seen in Figure 2. The shutter is hemispherical, made of very thin metal, and is pivoted in the exterior hemisphere, having an aperture in the middle. A spring serves to move the hemispherical shutter into such a position



that the base of its inner sphere stands at right angles to the base of the exterior hemisphere, whereby the opening in the inner hemisphere or shutter is closed. A lever arranged on the outside of the exterior hemisphere is under the control of the operator, and is connected with the upper pivot of the hemispherical shutter so that the latter can be given a half turn, in which position it is locked by a snap bolt. The operator now withdraws the slide in the holder and with the aid of the finder on top of the frame can readily sight the object to be photographed. A slight pressing on the projecting knob of the locking bolt moves the latter so as to release the hemispherical shutter; the spring thus rotates it a half turn, whereby the opening in the latter is for a fraction of a second brought in alignment with the objective and then again closed, and the exposure has taken place.

[The foregoing description, taken from a foreign journal, corresponds closely to the construction of the Tom Thumb Camera, invented and patented three or four years ago in the United States.—EDS.]

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RECENT EXHIBITIONS.

PRINT EXHIBITION OF THE SYRACUSE CAMERA CLUB.

December, 1891.

This, the first of such exhibitions ever held by this club, opened December 15th, and lasted four days. The club rooms were ornamented with potted plants and the hanging committee are to be specially congratulated on their good use of the space at their disposal. There were a few exhibitors from other cities but the most of the 658 prints shown were by members of the home club. Various printing methods were represented, bromides, platinums, blue prints (some of them toned), aristotypes, and others, besides the regulation silver print. A number of slides were shown as transparencies, the best of which, though it was difficult to choose, were by Dr. Gaylord Clark. One great objection to most of the platinum and contact bromides was their small size, 4 x 5 and under, which made it necessary to place them on the line in order to see them distinctly, and relegated to the upper regions some very fine work, which was worth being seen more closely. Such small prints are suitable only to hold in the hand. Bromide enlargements seemed to be in great favor and, as a general thing, were well done, but they never can equal the effect of a direct, contact print. Of the outside exhibitors, the finest work was by R. S. Redfield, of Philadelphia, which was uniformly good, but especially "Hesitation" and "Mending Their Ways." In Miss E. V. Clarkson's exhibit, "The Gamesters" stood first, but "In Nature's Mirror" would have been exquisite if the drapery had not been so white and the folds had been more clearly defined. "Marguerites," by Miss S. M. Potter, needed a little more in the way of accessories to complete it, but her "Four o'clock Tea" was a better composition. "A Portrait Study" would have been improved by a longer exposure and slow development. The three prints, enlargements, by Miss A. R. Phelps, while good, would have shown to better advantage by not being enlarged quite so much. Other good work was shown by Mr. R. C. Fuller, Providence, R. I., and "A Barefoot Boy" by Charles A. Stoddard of the same city was a capital study. Miss Bessie Dickinson's four bromides made one wish she had sent a larger exhibit. Work was also sent by Miss C. W. Barnes and several good landscapes by F. C. Beach. There were some very fine views in the Yellowstone Park, which, I was told, were by a professional. The mistake was made by two or three exhibitors of using black mounts for landscapes which almost ruined them. A neutral tint would have been much better.

Of the home club exhibitors the greater part made an excellent showing, but space forbids a very extended notice. Among work which requires special mention was that of Dr. Gaylord P. Clark, all in bromide, both direct prints and enlargements. Amos Padgham had some very carefully considered work, especially "Camera Club Outing." Good also were "The Mill" and "A Quiet Spot," by W. H. Olmsted. Several copies from paintings and etchings were exhibited which were much to be admired, but small platinums and bromides with bromide enlargements seemed to be the order of the day. Charles E. Lipe had a picture of a statue in Fairmount Park, Philadelphia, in which the difficulties incident to such work were well surmounted. The best of Dr. E. E. Keeler's exhibit was a bromide enlargement copied from an etching. Acceptable, artistically, and technically, were the following: "Near Skaneateles," by Charles R. Jones; "Chittenango Creek," by I. A. Savage; "Holston River, Va.," by J. D. Pennock; and "A Log House, Illinois," by Amos Padgham. Mr. Pennock's enlargement of an architectural view, No. 380, was well composed, and had sharp definition but would have been improved by a little more contrast. "From a Cottage Window," showed a pretty landscape framed by the window-casing with striking effect. Effective also was "The Thousand Island Park Hotel, Taken at Night, by the Light of Its Own Fire." The first was by George K. Collins and the last named made by M. L. Trowbridge from a negative by J. C. Stibbins. There were a number of good instantaneous views, noticeably so being those by Mr. A. P. Yates. His best were a bromide enlargement, "The Empire State Express, going at 60 miles an hour," "Cyrus and Samantha at the County Fair," and "In Mid-Air." He also showed a print, No. 212 from the negative which gained the Bausch & Lomb prize lens given for such work. Dr. Ely Van de Warker had some interesting Canadian Pacific views. Dr. P. W. Marlow's seven bromides, although too small for wall exhibition, were the work of a conscientious artist, and Mr. Wallace Dickson had two specially good views taken near Little Falls, N. Y. R. W. Bellhouse had some excellent landscapes, contact and enlargement bromides, the best being "Unadilla River" and "Staghorn Point, Skaneateles Lake." These, as also Dr. Marlow's, had the soft effect of platinotypes.

It was interesting to note the comments of visitors to the exhibition, revealing, as it did, how the tone of criticism as regards camera work is gradually changing. More appreciation of the difference between the various printing methods seems to be shown and of their application to the subject in hand. A well-arranged illustrated catalogue was given to visitors and a registry book kept which showed a very large attendance.

It is said that the club are soon to move into larger quarters and the success of the present exhibition as showing what the members, individually, are accomplishing ought to encourage them collectively to aim at an ever-increasing standard of work. The old saying still holds true, "There's plenty of room on top."

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Proposed Testimonial to Dr. R. L. Maddox.

In the December number we alluded to this testimonial, which is most worthy, and we trust interest in it will be awakened in America, commensurate with the importance of the discovery. Surely it would be appropriate to place some memorial or symbol in honor of Dr. Maddox at the Chicago World's Fair; then would be a good time to interest photographers and others.

In one English photographic journal, persons who improved Dr. Maddox's formula claim priority, but the printed record, so far as it has been investigated by us, points to him as the first originator. We give below a copy of the circular sent out by the special committee, and also extracts from a letter by Dr. A. C. Mercer from London to Miss Barnes, dated December 13th, bearing on the subject.

CROMWELL HOUSE, BEXLEY HEATH, KENT, November, 1891.

Dear Sir,—The discovery of the gelatino-bromide process has, beyond doubt, conferred benefits upon the art-science of photography which it is difficult to over-estimate, and has been largely instrumental in helping forward every department of scientific progress during the last few years. The amateur and professional photographer, the manufacturer, the man of science—indeed, every individual class in the community—has unquestionably gained, directly or indirectly, by this important discovery, which every photographer knows is due to the experiments of Dr. R. L. Maddox, originally published nearly twenty-one years ago.

But the services of Dr. Maddox to science have not been confined to the province of photography, for in the microscopical world he has also made his mark, being in fact an honorary fellow of the Royal Microscopical Society—no small honor. Whatever Dr. Maddox has done for science has always been without hope of recompense, and without attempt to turn his discoveries to pecuniary profit; he has given all freely and gratuitously. He has now attained a ripe old age, and has for many years been a martyr to a most painful disease. Further, much of what was left for his declining years was made away with by an unscrupulous trustee, and now our benefactor finds himself in need of comforts that might soothe his later years. A proposal has been made to celebrate the coming-of-age of the gelatine process by some acknowledgment to its originator, and the idea has been welcomed by many as a means of testifying to Dr. Maddox our gratitude to him for his free and valuable gift to the world.

It is hoped that the result of this appeal will be worthy of the services rendered by Dr. Maddox, and will be at once a credit to us as photographers, and a real boon to the recipient. Already a firm has come forward in a very handsome manner, and other offers of help have been made, and there is no doubt that this example will be followed by many who have reaped the benefit of Dr. Maddox's ability and generosity.

A strong and earnest committee has been formed for the purpose of conducting the business of the testimonial, and their names are given below.

Subscriptions will be received by Mr. Francis Cobb, Riverdale, Twickenham, London, S.W., and cheques should be crossed "& Co., a-c of The Maddox Testimonial Fund."

I am, yours, etc., ANDREW PRINGLE, *Hon. Secretary.*

Maddox Testimonial Fund Committee.—James Glaisher, F.R.S. (President of the Photographic Society of Great Britain), Chairman. Captain W. de W. Abney, F.R.S., R.E., C.B., W. S. Bird, George Davison, A. Haddon, A. H. Harman, Charles W. Hastings, T. C. Hepworth, Dr. A. C. Mercer, New York, Henry Sturmey, J. Traill Taylor, W. H. Walker, Sir Trueman Wood, F. York. Treasurer, Francis Cobb. Hon. Secretary, Andrew Pringle.

LETTER TO MISS BARNES.

Editor American Amateur Photographer:

My Dear Miss Barnes,—If you have not already done so, will you be kind enough to take up the Maddox cause in the AMERICAN AMATEUR PHOTOGRAPHER. The cause is worthy an enthusiastic woman's heart. I have personally known about Dr. Maddox's physical suffering and his exceptional scientific ability, which has struggled to be active in spite of suffering, during at least ten years. I had also become acquainted with his financial misfortunes (occurring recently) before this movement was started. I had also in the first *Photographic Times Almanac*, in a paper entitled "The Indebtedness of Photography to Microscopy," called attention to the wide-spread indebtedness due Dr. Maddox. So, and further because Dr. Maddox has been a steadfast and generous friend, I welcomed with a full heart the testimonial movement. I write this to you believing this confirmation of what you have doubtless seen already agitated—the confirmation of the truth of the need of Dr. Maddox from one whom you personally know and who in turn personally knows Dr. Maddox and about his physical suffering and financial misfortunes—will gain your sympathy in the cause, and with your sympathy your shoulder to the wheel.

Some one here has suggested that perhaps you might call the attention of the lady (Miss Bruce, I think) who has done so much, astronomically, at Harvard to this movement. Photography of the entire heavens, as now practiced, is only possible with dry plates. I wish astronomical people generally could be reached. Photographic lens and apparatus and chemical makers—and almost who not?—have all been benefited.

Anything you can do will be most welcome, and in return you will have the gratitude of the committee, Dr. Maddox, and especially Yours sincerely, A. C. MERCER.

33 Richmond Terrace, Clapham Road, London, S. W., England, December 13, 1891.

[NOTE.—As we go to press we learn that Mr. John Carbutt, of Philadelphia, has contributed $250 to the fund; up to the present time over one thousand dollars has been subscribed. We ask for contributions; if sent to us they will be forwarded to the committee.]

by a strong summer sun, makes a contrast that is painful to the eyes. A short exposure, too frequently given, produces a picture with harsh and hard contrasts; but by giving a sufficiently long exposure the contrasts are reduced, so that the house appears to be bathed in the mellow light of an Indian summer day. How much of this may be owing to the diffused light reflected from the more illuminated parts? Portraiture of course is practiced almost entirely by the use of diffused light. In the old days it was a constant practice to let diffused light act slightly on the plate in order to give a shorter exposure.

DIORAMIC—A mode of scenic representation invented by Daguerre and Bouton, in which a painting is seen from a distance through a large opening. By a combination of transparent and opaque painting, and by contrivances such as screens and shutters, much diversity of scenic effect is produced.

DIORAMIC EFFECTS BY PHOTOGRAPHY—Dr. Taylor, of Glasgow, was the first to produce dioramic effects by the application of photography, and when he first showed this novel application, the greatest wonder and delight were evoked from his distinguished audience. Dr. Taylor's effects were obtained by having as a backing to his transparencies the edge of a rotating cylinder six feet in diameter, formed of white calico, and on which was painted clouds and the various colors, from white, ranging through yellow, orange, red and crimson down to the darkest effects required. As the transparency was examined through a magnifying glass, the backing was necessarily out of focus to such an extent as to prevent the details of the clouds and painting to be seen with minuteness. Hence the general effect only was obtained. The same illusion can be secured by causing a strip of translucent paper or calico, the same width as the picture, and having the requisite effects painted upon it, to pass close behind the transparency, wound and unwound upon two vertical wooden rollers, one placed at each end of the picture to be exhibited. The cosmorama of Dr. Taylor consisted of a rectangular box three feet long by two feet deep by two feet wide. In the end opposite the picture were four lenses, each about twenty-two inches focal length and four inches diameter, this being for the accommodation of more than one observer at a time. The interior of the box was blackened, and in it was placed some pieces of natural foliage so as to cover to some extent between the eye and the picture, to afford variety of form, and to increase the illusion as to distance. Dr. Taylor used glass, but prints made upon very thin paper can be used, and the dimensions of the box can be readily reduced to much smaller ones.

DIPPERS—The most convenient form, and easiest kept clean, for use in the dark room, for handling hypo., alum and other solutions in bulk, is made from cocoa nut shell. Also appliances made either from wood, bone, ebonite or wire (preferably silver), for introducing and withdrawing plates from the sensitizing baths.

DIRECT POSITIVES ON GELATINE PLATES—A thin make of gelatino-bromide instantaneous plates to be used. A short exposure, but not with a drop shutter, is to be given. Develop with a ferrous oxalate. The development to be stopped as soon as the detail is all out, but while the image is still bright on the surface, and the shadows still unclouded, then treat them to an alum bath, and clear as usual. After a moderate washing the image is to be bleached with iodine dissolved in a solution of potassium iodide (color of golden sherry). The solution should be saturated with iodine. No free iodide of potash present, else the image will be impaired. A dilute solution of ammonia, after a rinsing or perhaps soaking in water, whitens the image and clears the film from excess of iodine. The plate is then dried and varnished with clear negative varnish, and backed in frames of black velveteen. It is essential that the development be stopped long before the density suitable for a negative has been obtained, otherwise the shadows would not be clear, and show the backing well through. For the same reason the exposure should not be sufficient to cloud the shadows in the least. The whites, owing to the iodide of silver, are cream colored, and not as pure as when bleached with mercury.

DISH—See Tray.

DISKS AND THEIR RELATION TO THE LENS—The following questions often arise with the operator of a magic lantern when called upon to give an entertainment in a hall or room. 1 What size disk can be obtained with a lens of certain focus? and, 2. How far distant from the screen must the lantern be placed in order to get a certain size disk with a given lens of known focus? Instead of the rule of thumb practice of wheeling the apparatus up and down a room in order to find the desired position, it is much more simple and satisfactory to reason thus before starting to the place of entertainment. A screen of — feet diameter is required. So, if I bring a lens of — focus, the lantern must be — feet from the screen; the length of the room being, of course, taken into consideration in order to ascertain that it is possible to erect the lantern at the required distance. If called upon to operate a lantern in a hall twenty-five feet in length, we first ascertain the size of the disk desired, which we will suppose to be ten feet. With an objective having the focus of six inches, how far from the screen must the lantern be placed in order to produce the ten foot disk? Here is the rule by which it can be ascertained:

Let A=focus of objective.
B=diameter of slide.
C= " " disk.
D=distance between lantern and screen.

Multiply the diameter of the circle required C by the focus of the lens A and divide by the diameter of the slide B.

$$\frac{C \times A}{B} = D = \frac{10 \times 6}{3} = 20 \text{ feet.}$$

It is thus seen that in order to produce a ten foot disk with a six inch objective, the lantern must be placed twenty feet from the screen. On the other hand, we may possess several lenses of different foci, and it is necessary that the screen and the lantern must occupy certain positions, which we will suppose to be twenty feet apart, and that the diameter of the disk must be ten feet. How are we to ascertain whether we must use a lens of four, five, six, seven, or other number of inches in focus? Multiply the distance between the lantern and screen D by the size of the opening of slide B, and divide by the diameter of disk (C), $\frac{D \times B}{C} = A$, focus of lens $= \frac{20 \times 3}{10} = 6$ inches focus

Again we have a lens of six inch focus and intend that twenty feet shall intervene between the lantern and screen, and wish to know what size of disk can be produced. In order to calculate this, it is necessary that we multiply the distance D by the diameter of the slide B, and divide by the focus of the lens used, which gives $\frac{D \times B}{A} = C$, diameter of disk, $= \frac{20 \times 3}{6} =$ 10 feet diameter of disk. The following reference table is given to show the relation between lantern and disk, with lens of every focus from four to fifteen inch.

REFERENCE TABLE.

Distance between Lantern and Screen.	FOCUS OF LENS.											
	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.	10 in.	11 in.	12 in.	13 in.	14 in.	15 in.
	DIAMETER OF DISK.											
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
10 feet..	7·6	6·0	5·0	4·3	3·9	3·4	3·0	2·9	2·6	2·4	2·2	2·0
11 "	8·3	6·7	5·6	4·9	4·2	3·8	3·4	3·0	2·9	2·6	2·4	2·2
12 "	9·0	7·2	6·0	5·2	4·6	4·0	3·7	3·3	3·0	2·9	2·7	2·5
13 "	9·9	7·10	6·6	5·7	4·11	4·4	3·11	3·7	3·3	3·0	2·9	2·7
14 "	10·6	8·5	7·0	6·0	5·3	4·8	4·2	3·11	3·7	3·3	3·0	2·9
15 "	11·3	9·0	7·6	6·5	5·8	5·0	4·6	4·1	3·9	3·6	3·3	3·0
20 "	15·0	12·0	10·0	8·7	7·6	6·8	6·0	5·6	5·0	4·7	4·3	4·0
25 "	18·9	15·0	12·6	10·9	9·4	8·4	7·6	6·10	6·3	5·9	5·4	5·0
30 "	22·6	18·0	15·0	12·10	11·3	10·0	9·0	8·2	7·6	6·11	6·5	6·0
35 "	26·3	21·0	17·6	15·0	13·1	11·8	10·6	9·6	8·9	8·1	7·6	7·0
40 "	30·0	24·0	20·0	17·2	15·0	13·4	12·0	10·10	10·0	9·2	8·6	8·0
45 "	33·9	27·0	22·6	19·3	16·10	15·0	13·6	12·3	11·3	10·4	9·8	9·0
50 "	37·6	30·0	25·0	21·5	18·9	16·8	15·0	13·8	12·6	11·6	10·9	10·0

Examples—An eight inch lens, at a distance thirty-five feet, will give a disk of thirteen feet one inch. To produce a disk of twelve feet with a ten inch lens, the lantern and screen must be separated by forty feet. To produce a disk of fifteen feet at a distance of forty-five feet will require a lens of nine inch focus.

Dispersion—The separation of light into its different colored rays arising from their different refrangibilities. When white light, or that which reaches us from the sun, passes from one medium into another, it is decomposed into several kinds of lights, a phenomenon to which the name dispersion is given. Recognizing this fact that different transparent media have different dispersion powers, and that different kinds of glass are subject to this law, opticians have been enabled to eliminate chromatic aberration from their lenses. Consult a good treatise on light.

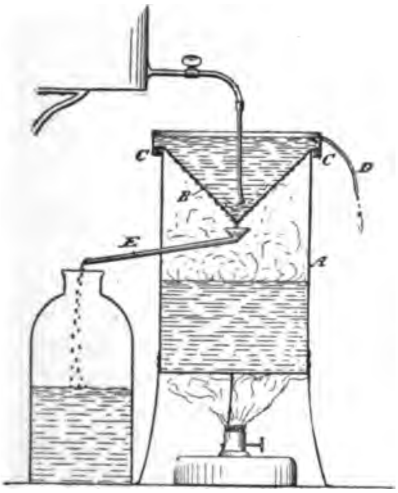
Dissolving Views—Originally invented by Henry Langdon Childe, about 1811. The effect was produced as now, by the employment of two lanterns. See Magic Lantern.

Distance—An interval of space between two or more objects, or those farthest from the eye. *Wilson's Quarter Century* says that there are six circumstances which may be used by the photographer of judging of the distances of objects. 1st. Their apparent magnitude. 2d. The strength of their shadows. 3d. The direction of the two eyes. 4th. The parallax of the objects. 5th. The distinctness of the small parts. 6th. The kind of lens used.

Distance, Angular—The angle of separation between the directions in which two bodies are seen. Apparent distance.

DISTILLED WATER—$H_2O=18$—Prepared by transforming water into vapor by the action of heat, in a still, retort or boiler and then condensing the vapor by cooling. By these means all the impurities in the water are left behind in the retort or boiler if the process is not pushed too far. This purified water should be used in most of the operations in photography, such as preparation of the various solutions required for developers, emulsions, etc.

DISTILLERY, A PORTABLE—Photographers away from cities are often at their wits' end to procure water of assured purity. The following cheap, portable and not in the way device may help them in their difficulties. I have used one for years. A cylinder 13 inches high by 7 inches in diameter, with bottom made preferably of copper, with three legs of strap iron high enough to raise the cylinder 6 inches from the ground. To the top of the cylinder a conical lid 8½ inches in diameter (outside) and 5 inches in height from base to apex of cone, provided with a flange to fit snugly inside the cylinder. Near the base of the cone a tube 3 inches long is inserted. About 5 inches from the top of the cylinder a tube 10 inches long is passed through, terminating in a small furnace exactly under the apex of the cone when the cover is on. The other end projects about 3 inches on the outside of cylinder.



SECTION OF CYLINDER BODY, ETC.

A Thirteen inches high and seven inches in diameter. B Conical lid, eight and a half inches in diameter and five inches in height from apex to base of cone. C C Flanges to fit snugly inside the cylinder. D Tube three inches long. E Tube ten inches long, terminating in a small funnel. Still was invented. I believe, by Mr. C. C. Neves, of England.

Fill the cylinder about one-half full with ordinary water. If pressed for time hot water may be used. Adjust the cover and place the apparatus over a gas or oil stove, and, by means of an India rubber tube connected with a tap, pass a gentle stream of cold water into the cover, allowing the overflow to pass out through the tube in the cover. I generally place the still in my bath tub, to be near the supply of cold water and to prevent wetting things generally. When the water boils, the steam rises and settles on the cone cover, where it is condensed by the cold water in the cover, and it is then collected in the funnel and runs down the long tube into a bottle or other receiver.

Distortion, Deformed—A twisting out of regular shape, crookedness, perversion. A fault met with in some photographic lenses, causing straight lines near the margin of the object to be represented by curved lines in the image. As a rule, there are two prominent kinds of distortion. Exaggerations in dimensions of certain objects, with respect to others, violating the rules of true perspective. This is seen in using wide angle lenses. The near objects are much increased in size, distant objects dwarfed. Another kind of distortion is seen in a great many single lenses, due to the refraction of the oblique eccentrical pencil of light by the margin of the lens, especially in lenses of long focus. If the diaphragm is improperly placed (*i. e.*, too near or too far) in front of the lens, the straight lines of the margin are curved outward, barrel shape. If the same fault is made in placing the diaphragm behind the lens, the lines are curved inward, pincushion shape. In doublets, that is, using two symmetrical lenses, with the diaphragm placed between the two, the fault is corrected, for the distortion of one does away with the distortion of the other, and straight or rectilinear lines are the result. Fortunately the distortion caused by single lenses is not very apparent. A singular fact exists, that copying or enlarging a distorted negative by the same lens does away entirely with the distortion in the enlargement or copy.

Distortion in Albumen Paper—Albumen paper is especially subject to change of dimensions in working, and that contraction takes place in different directions. In the direction of the axis of the paper roll from which the sheet is cut, the contraction is nearly *nil*, but in the direction perpendicular to the axis, it is sometimes nearly 5 per cent. But putting the prints in water previous to mounting, and mounting them wet, pictures expand in the direction of the breadth considerably, so that faces can be made a little broader or more slender, if the axis of the paper is cut in direction of the length or in the direction of the breadth. If

(To be continued.)

CORRESPONDENCE.

THE PLATINOTYPE PROCESS PATENTS.

To the Editors of the American Amateur Photographer:

Dear Sir,—My attention has been called to an article in the *American Journal of Photography*, wherein it is suggested that the term of the platinotype patents had expired.

The article is misleading, and, with your permission, I would be glad to state the following for the benefit of any one who may have been misled by the article in question:

The first patent granted in the United States for a process of producing pictures in the metal platinum was granted Willis in 1876. This process, as every one familiar with it knows, was a very complex affair, necessitating the use of silver, gold, and hypo, before the picture was considered finished. Many beautiful results were got by this process, but the working of it was not always attended with success. It was the beginning of "The Platinotype." The patent which followed—1879—was a great advance, but as neither of the three principal salts—ferric oxalate, oxalate potash, potassic chloro platinite—used in or about the process were in the market, it was a tremendous labor to discover the best method of manufacturing these salts. Moreover we soon found that none of the photographic papers in the market could be used for platinotype, and a paper had to be invented for our use.

Our last patent was granted in *March, 1890*. This patent fully covers the application of a solution of ferric oxalate, or its compounds to paper or other surfaces, exposing this prepared paper to the action of light and developing the exposed image to a metallic platinum picture.

I have no knowledge of any patented process or processes for prints in platinum other than those of Willis. The method as published by Pizzigehelli was discovered by Willis fully fourteen years ago, and laid aside as being imperfect. A "Printing Out" process in platinum has long been' in the mind of Willis, and hundreds of experiments have been made by him in that direction, but the many difficulties in the way will make it almost impossible to ever get a perfect process of this kind.

Our patents are original. There are no similar patents in any country in the world. It would, therefore, be not difficult to establish our claims.

Respectfully,

Philadelphia, Penn., December, 1891. ALFRED CLEMENTS.

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SOCIETY NEWS.

[Under this head we propose to publish all society matters of scientific or technical value, which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 20th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—*Regular monthly meeting, December 8th.*—At 8.15 the meeting was called to order, President James H. Stebbins in the chair. The President called on Dr. Charles Ehrmann to explain how two large panoramic photographs of the Horseshoe Bend on the Pennsylvania Railroad, each four feet long by eighteen inches wide, hung upon the wall and sent for exhibition by John Carbutt, were made. Dr. Ehrmann stated in reply that they were made on Carbutt's celluloid films, specially prepared, in a Moessard (French) camera, with a fifteen-inch focus Portable Symmetrical Ross lens, stop f-64. The back of the camera is in the form of an arc, while the front, holding the lens, is pivoted in line with the vertical axis of the lens. Semi-circular plate holders conforming to the back of the camera, held the film in place rigidly, and in this feature differed somewhat from the usual French camera. When the view is made the lens is rotated, thus carrying the image from one end of the sensitive film to the other. Only a small section of the image about one inch wide is allowed to strike the film at a time. The examples shown were remarkably good. The President remarked that when in Paris he saw several excellent examples of very large panoramic photographs. The perfection reached in this line was most remarkable. A discussion on the cause of peculiar round, transparent spots, regularly shaped, on plates and films then ensued. Dr. Ehrmann thought they were caused by something repellant in the gelatine itself rather than to dust. A dust spot is indicated by a black speck in the center, surrounded by a transparent circle.

Mr. F. C. Beach then exhibited and explained the new western magazine hand camera, called the "Velox," which has the advantage of a changeable magazine, that enables the operator to remove in the field one magazine full of exposed plates and insert another of fresh plates. It is a double story camera. The lower portion has a ground glass, closing the rear portion of the exposing chamber or pocket. As the box of plates is drawn forward by a suitable crank and lever on the under side of the outside box, each plate in turn is brought over a slot closed by a slide valve attached to the ground glass, and a rod projecting through the rear of the outside box. By pulling outward on the rod, the valve is drawn back and allows a sensitive plate to fall from the magazine box into the chamber below; releasing the rod allows a spiral spring around it to force the ground glass forward against the back of the sensitive plate, holding the latter in the focal plane. After exposure, the camera is turned upside down, the valve rod withdrawn, thereby allowing the plate to drop back into the same groove in the magazine box it originally occupied. To make ready for the next plate, the magazine moving lever is pulled forward one notch, and the operation of drawing the valve is repeated and continued until all of the plates are exposed. The magazine box is provided with a sliding cover, which is locked before the box is removed. A metal screw cap is inserted in the rear of the box, and when removed enables one to view the image on the ground glass before exposure when desired. It must be done and the cap screwed on before the sensitive plate is dropped. The camera is provided with two finders and a rotary disk shutter, propelled by a straight wire spring, and has instantaneous and time adjustments. The shutter is secured to the back of the outside detachable end, just in front of the lens. The latter is focused from a lever on the under side of the box. Altogether the box is quite a neat-looking affair and has the advantage of a ground glass—a feature not usually found in magazine hand cameras.

Mr. William W. Murray gave an informal but interesting talk on "Lantern Slide Making," an abstract of which will be found on another page. After giving him a vote of thanks, the meeting then adjourned.

Friday Evening, December 18th.—Special Exhibition of Lantern Slides.—A few members of the society have been at work on special subjects during the summer, and intend showing the result of their work by a collection of slides. The first to do this was Cornelius Van Brunt, Esq., who gave quite an interesting exhibit on the above-named evening. His subject was the Beaver-kill region in the Catskills, noted for its beautiful mountain scenery and excellent fishing streams and ponds. He began by describing the geographical features of the country, explaining the curious fact that the Catskill ranges run east and west instead of parallel with the Hudson, and illustrated these points with slides of maps. He spoke of the geological facts, showing how ages and ages ago the Catskill mountains must have formed the bottom of the sea, subsequently thown up by volcanic action. The heights of the different mountains was stated, then views of the Club-House and lake where he stopped were shown; the janitor, groups of ladies on the piazza, the interior, and botanizing all came in for a share of illustration. The path to the observatory most attractive in its wealth of foliage was shown, the observatory itself, and the men that built it. Several portraits of the oldest and oddest men in the vicinity were included, as well as views of brooks, ponds, and the house Mr. George Gould has recently built. Other pictures were of Quaker Clove Brook Waterfalls, of Willowmec Club-House and Lake. The latter is noted for its trout. There were shown views on the Beaver-kill, of the Fontanalis Club-House, and the Beaver-kill Club-House. It is made up of several small houses centering upon one main building. The latter was used as a general room, while each individual had a separate independent house to himself, and could snore as loud as he pleased without disturbing the others. The buildings were called "Snorotories."

The Murdock House, built fifty years ago, was shown and was located in a good spot for trout-fishing. Jones's saw-mill, and five views of Farlon Lake, some of them very attractive, followed next. Leaving the Beaver-kill Valley, which is twenty-four miles long, views were next shown of a place called "Seagers," his saw-mill, Mr. and Mrs. Seager, their granddaughter, and pretty views up the valley from their house. Mr. Seager was quite a botanist and understood the region well. The region around the Kautershill Hotel, called "Acra," including many very attractive waterfalls was next shown, and the exhibition closed with views of mountain and road scenery of great beauty and interest. Mr. Van Brunt was a very entertaining speaker, and understood his subject so thoroughly as to depict and explain mountain life to perfection. His informal description and the relation of many anecdotes added spice to the entertainment. At the conclusion he was cordially thanked. Six slides of figure subjects, illustrative of Christmas time, followed, by Miss Emily Clarkson. One of the "Christmas Plum Pudding" was particularly good.

THE CALIFORNIA CAMERA CLUB.—This organization has lately voted to join the *American Lantern Slide Interchange.* It is doing considerable work in behalf of charitable institutions, which is sure to popularize it with the mass of the people.

The nineteenth illustrated lecture on "Northern Italy," by Dr. Charles H. Steele, was given in the Metropolitan Temple on December 10th. On December 17th another exhibition was given in behalf of a "Congress of Dolls," gotten up by one of San Francisco's newspapers.

Charity Benefit by the Club on November 27, 1891.—The title of the entertainment was "Picturesque Oddities, presented by the California Camera Club." A San Francisco paper gives the following account of it:

A large assemblage thronged Metropolitan Hall on the occasion of the benefit tendered to the San Francisco Nursery for Homeless Children, by the members of the California Camera Club. A long and interesting lantern-slide exhibition formed the most prominent feature of the evening's programme, and the rendition of several instrumental and vocal selections contributed much to the success of the entertainment. The stereopticon exhibition consisted in the presentation of about two hundred and fifty views of scenes in Mexico, Oregon, Yosemite Valley, and other portions of California. Many local pictures were also shown, including several striking scenes of life in the Chinese quarter. A number of extra slides were added to the collection, in which the children at the nursery were shown, one of the most interesting pictures representing a tug-of-war by the laughing youngsters.

The views of the old California missions were splendid specimens of the photographer's art, and a series of snow scenes in the Sierra, by Tibbett, are especially deserving of mention. One of the photographs, by a member of the Camera Club, entitled "The Initials," was awarded a prize in the Leslie contest recently.

The several intermissions were rendered not the less agreeable by the rendition of the musical programme. The Elturia Mandolin Club furnished a number of selections, and a composition entitled "The Garden of Sleep" was sung by Mme. Seminario. Miss Magda Bugge, the Norwegian pianist, assisted by H. Wismer and A. Lada, gave several exhibitions of her skill in the manipulation of the keys, and a song, called "Perfumes from the Orient," by Miss Anna M. Wood, concluded the programme.

George W. Reed furnished the audience with much information respecting the views, and the lantern was in charge of Howard Tibbetts.

December 15th the club gave a housewarming and "Hyjonekin" at its quarters. Demonstrations on photographic subjects were made.

THE TOLEDO CAMERA CLUB.—The club has undertaken a *Winter Prize Contest* for the elevation of the art of amateur photography. There are to be two classes of photographs according to their size. Class A includes 4 x 5 and under. Class B includes 5 x 7 and over. The prints are to be on Omega paper. The negative must be exposed and developed by each contestant. The contest opened on December 15, 1891, and closes on March 1, 1892.

Each contestant is to have the privilege of submitting five prints, which are to be strictly of winter scenes, and become the property of the club at the close of the contest. The prize for class A is to be a 5 x 7 Blair camera, with a 5 x 8 Ajax lens, and for class B a 5 x 8 Bausch & Lomb Rapid Universal lens. An entrance fee is to be charged of fifty cents for class A and one dollar for class B. The exhibition to be supervised by a committee of three.

The club has undertaken to set apart one evening each week for instruction in photography and established a "Committee on Lantern Slides" for encouraging such work among members. An effort is also being made to establish a complete photographic reference library.

On January 1st the ladies of the club tendered a reception at the club-rooms to members and guests, from eight to ten o'clock in the evening, which was very successful.

THE PHOTOGRAPHIC SOCIETY OF KANSAS CITY.—The regular meeting of this society, held on the evening of November 25th, was of unusual interest. The attendance was full and samples of excellent work by members shown. The usual routine business was disposed of and the special order of the evening taken up, which was the reading of a paper, "The Application of Photography to Surveying," by G. W. Pearsons, C.E. (See another page.) Mr. Pearsons is one of the best-known engineers in the West, having been identified with nearly all the public works in Kansas City for half-a-score of years. He was the chief engineer having in charge the construction of the new water-works system of that city, covering the building of the immense reservoirs at Quindoro, Kan., from which Kansas City receives its water supply, as well as the laying of connecting mains, etc. He is an enthusiastic and hard-working amateur photographer and is known as the deepest thinker in the society. His paper was listened to with deepest interest.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting was held Wednesday evening, December 9, 1891, the President, Mr. John C. Bullock, in the chair.

The board of directors made their monthly report, stating that the work on the improvements in the new quarters was progressing favorably. With a view to supplementing the subscriptions made by members, they recommended the appointment of a special committee of the society, to act in conjunction with the committees on meetings and lantern slides, in arranging for a series of three or more public entertainments to be given during the present season for the benefit of the house fund.

They further recommended that a special committee be appointed to arrange for a suitable reception on the occasion of the completion of the work in the new quarters of the society.

At the conversational meeting, November 25th, a collection of interchange slides from the Lantern Society of London, England, were shown. They were a remarkably fine set, and certainly one of the best collections ever sent to the society in this manner.

The amendment to the by-laws offered at the last stated meeting, making the annual dues of active members ten dollars, was taken up for action, and after considerable discussion was passed by a large majority.

Mr. Cheyney called the attention of members to an interesting book which he had come across, published in Philadelphia in 1853. It was entitled "Plain Directions for Obtaining Photographic Pictures by the Calotype and Energiatype, etc.; also Practical Hints on the Daguerreotype," by J. H. Croucher.

He read various extracts from the book, which were interesting as contrasting some of the old-time photographic processes with those of the present day. Peculiar interest, however, was attached to one of the extracts on "daguerreotype panoramique," on account of recent threats said to have been made by Mons. Moissard to prosecute certain Americans for an alleged violation of his patents.

The extract read as follows:

DAGUERREOTYPE PANORAMIQUE.

"This apparatus is constructed to admit of a view of considerable length and of extreme nicety of delineation, being taken with a lens of moderate diameter. The lens is made to have a horizontal movement, which brings it to bear successively upon every part of the horizon within 150 degrees. Having been fixed so that the vertical lines of the object are perpendicular with a line drawn through the ground glass on which the focus is taken, the prepared plate is placed in a *flexible frame* and retained in a certain curve by stops fixed to the frame. The lens is now turned to the extreme limit of the view to be taken, and then gradually and smoothly moved onward by a rack-work attached to the camera till it reaches the other extremity, waiting a longer or shorter time at each point as the object is more or less illuminated. The plates are prepared and fixed in the ordinary way. The use of this instrument is difficult, however, and requires considerable practice to produce good pictures."

A large collection of hand cameras was shown before the society, and their various peculiarities explained and discussed. Among them were the following: Anthony's Magazine Camera, the Sunol, the Kameret, the Hawkeye, the Premier, a folding Kodak, converted to use cut films in double holders, a Scovill Detective, a Henry Clay with long focus extension base board, a Henry Clay Stereoscope, a Beck Stereoscope, a Swinden & Earp Magazine, a magazine camera by the Stereoscope Company, of London, England, also one made by Turnbull, of Edinburgh.

Mr. Carbutt stated that in view of the increase in stereoscopic work it might be well to mention that a very simple way of making transparencies for the stereoscope consisted in the use of cut films with a mat back. To obtain a perfect stereoscopic effect the negative has to be bisected and the views changed around. If the negative was taken on a film it could readily be cut with a square and knife so that they would come together perfectly. Where glass plates were used they had to be cut with a diamond, thereby running the risk of a rough edge. At the next meeting he intended to show some very good results in transparencies of the kind referred to.

Dr. Mitchell asked whether any of the members had tried the new developer, "para-amidophenol." He expected to show a few lantern slides at the next meeting made by this developer, which was claimed to be the coming developer. So far it was extremely expensive, the wholesale price being about thirty-five cents per dram; but it was very powerful, and worked quickly and strongly in a very dilute solution, about one part to two thousand. It was particularly excellent for bromide paper, giving much better whites than could be obtained with oxalate.

Mr. Stirling exhibited the Prosch lamp for pure magnesium powder, which seemed to be one of the best of its kind. He also exhibited a print made by the Kallitype process.

Adjourned.

BROOKLYN ACADEMY OF PHOTOGRAPHY.—The print exhibition of the Brooklyn Academy of Photography at their rooms, Clinton and Montague Streets, in December, was a notable event. It was the first exhibition of the society, and, while it was not very large, its quality was first-class, and the members have reason to feel proud of the result. The pictures were noteworthy for their artistic merit as well as their excellence as photographs. The exhibition of fine lantern-slide work by President Frank La Manna, H. Allen Smith, and William Arnold was of unusual excellence. The latter gentleman made his own emulsion for the slides, and then after development carried them through pretty much every stage of treatment possible, bleaching out the picture and then bringing it back, until a degree of softness and delicacy was obtained that was artistic in the highest degree. Mr. Smith's pictures were copies of celebrated paintings, and were wonderful for softness and finish and sharpness of detail. Mr. La Manna showed a number of quaint snap-shots taken at home and abroad, illustrating what can be done with the instantaneous lens. Mr. Gonzalo Poey exhibited some fine prints. Mr. W. F. Wintringham exhibited scenes in the West Indies among other things. Mr. J. B. Morrison had a number of handsome prints of scenes about Asheville, N. C., and Mr. Starks W. Lewis showed some specimens of landscape work that for rich color and clearness of detail were unusually good. The exhibition was rather lacking in portrait work. Only a few portraits were exhibited, but such as were shown were fully up to the standard. It is, perhaps, just as well that this branch of photography should be left to the professional gallery. Outdoor work in this exhibition had full swing. There was one dainty frame in white containing several small blue prints by Mr. Trowbridge which attracted universal attention. They were marines, and well illustrated the possibilities of blue-print work when done with care and proper artistic appreciation. Mr. Allen Smith's companion frame of views about Litchfield and along the Shepaug Valley in Connecticut was very fine. The exhibition illustrated some of the excellent possibilities of aristotype when well handled.

THE BOSTON CAMERA CLUB.—The annual meeting of the club was held at its rooms, 50 Bromfield Street, on Monday evening, January 4th, a large percentage of the members being present. The annual reports of the officers showed the club to be in a very flourishing condition, with excellent prospects for the future. The election of officers resulted in the following named gentlemen being elected: President, Henry N. Sweet; Vice-Presidents, George M. Morgan, Wm. H. Drew, Edward R. Andrews; Secretary, Wilbur C. Brown; Treasurer, F. Alcott Pratt; Librarian, Wm. O. Witherell; Executive Committee, Henry N. Sweet, George M. Morgan, Wm. H. Drew, Edward R. Andrews, Wilbur C. Brown, F. Alcott Pratt, Wm. O. Witherell, Charles E. Davis, Jr, J. Prince Loud, Parker B. Field, Wm. Garrison Reed, Charles H. Currier, Joseph T. Greene. The members then proceeded to discuss a number of contemplated improvements in the rooms and apparatus, one of which is an improved form of electric light enlarging camera. After the adjournment of the meeting the members partook of the annual supper and examined their work contributed to the Fourth Informal Exhibition which had been hung on the walls of the reading-room. The pictures were divided into six classes: portraits, landscapes, interiors, enlargements, transparencies, special class (flowers, fruit, etc.). It was conceded by all that a better display of work never had been made there, and to ascertain which picture in each class was the best, every member visiting the rooms during the week was expected to deposit a vote with the attendant, naming his preferences in that respect.

The committee having charge of the Informal Exhibition is Wm. O. Witherell, George M. Morgan, Rufus A. Bullock.

The new executive committee will proceed at once with the preparations for the Fifth Joint Exhibition to be held in this city, during the first week in May next, invitations to which have been sent to all societies and publications interested in photography, at home and abroad. The secretary has sent out the following circular relating to

THE FIFTH ANNUAL EXHIBITION OF THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA, THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK, THE BOSTON CAMERA CLUB.

The annual exhibition of the foregoing named societies, open to all photographers, professional or amateur, will be held at the gallery of the Boston Art Club, May 2 to 7, 1892, under the auspices of the Boston Camera Club.

The rules will be substantially the same as for the Fourth Annual Exhibition held in New York last spring.

This preliminary circular is sent now in order that members may have sufficient time in which to prepare their exhibits.

The usual circular giving rules and all other information will be mailed early in January next.

Foreign prints may be sent by mail, unmounted; they will be properly mounted and framed by the Committee of Arrangements.

Please advise the undersigned at an early date as to what we may expect.

Very respectfully, WILBUR C. BROWN, *Secretary*.

Along with this circular was another describing the rules for a special lantern-slide prize contest, which the club proposes to carry out in connection with the exhibition. Six negatives of good, medium, and poor quality are to be submitted to the three organizations and outsiders to see who can make the best lot of slides. A medal is to be awarded by the club for the best work, and the prize lot are to be used as a sort of educational set for those wishing to learn lantern-slide making and to know which is the best process. It is intended that the set of negatives shall be in New York during January and February and in Philadelphia in March and April.

PHOTOGRAPHIC SECTION OF THE AMERICAN INSTITUTE.—On December 1st, an exhibition of lantern slides, including work by A. J. Wright, D. F. Seaver, Willis Dodge, A. M. Clark, and Dr. Charles Ehrmann was given and much appreciated. Mr. A. D. Fisk operated the lantern. He also showed gas cylinders of small size.

PUBLISHERS' DEPARTMENT.

[In justice both to ourselves, and to those firms whose specialties are mentioned in this department, we desire to state that we neither ask nor receive compensation for such notices as are given. Any dealer or manufacturer who sends us samples of goods for notice will receive just what the merits of the goods deserve, no more and no less. Any apparatus sent us for trial and notice will be returned if so requested. This department is maintained in the interests of our readers, to whom timely notice of novelties may be valuable.]

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THE STUBER DRY PLATE.—A photographer who has been successful in winning prizes at many conventions has just organized a company for the manufacture of the above-named new dry plate. We allude to Mr. W. G. Stuber, of Louisville, Ky., who is to be at the head of the Stuber Dry Plate Company. The company is erecting a large brick building, to be equipped with every facility, and expects to place the plate on the market this spring. We wish them success. This is a large country, always room for one more.

RODINAL.—This is the name of a new developer made by the originators of eikonogen, and is said to be a para-amidophenol developer. It is put up in liquid form having the alkali added, a few drops placed in water being sufficient to make a vigorous developer. We have tried it on bromide paper with success, though we thought the proportion of alkali was somewhat too great. We hope to give it a further trial and report in our next number.

IOTA LANTERN-SLIDE PLATES.—These are plates coated with a printing-out gelatine chloride emulsion, and are very easily worked the same as a silver print. The picture is printed by contact in a printing frame in the sun. They are made by Mr. Geo. H. Chase, Newport, R. I.

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BOOKS AND EXCHANGES.

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THE PHOTOGRAPHIC IMAGE. A Theoretical and Practical Treatise of the Development in the Gelatine, Collodion Ferrotype, and Silver Bromide Paper Processes, by P. C. Duchochois, photographer. Paper, 213 pp.

A valuable and useful book for those wishing practical knowledge on the subject of development. The different chemicals and their functions used in photographic operations are explained, the best methods of dark-room illumination are touched upon, the value of exposure meters and the relation of exposure to development are described, while the most important chapters are devoted to the practical methods of development and their reasons, which are fully elucidated. The value of different developer compounds for special purposes is alluded to, and we commend the conciseness and clearness with which the general practice of development is stated. While explaining the variations in developers it is desired to make for certain purposes, Mr. Duchochois omits to describe a method in common use of providing a series of trays each containing different strengths of developers, from either of which a plate may be transferred according to the result desired, or to speak of the two-solution plan. That is to first soak a plate in a normal pyro solution for four or five minutes, then transfer it to a tray containing a weak alkali solution. Very soft negatives full of exquisite detail, of interiors, where the contrasts are excessive, are obtained in this way. The rules he lays down concerning development are very plain and will be helpful to beginners. Fixing, intensification, and reduction are subjects treated on clearly, with explanations of chemical reactions. There is a chapter on "Causes of Failures," which is thoroughly treated on. Part III. is devoted to the Collodion Process, both wet and dry, to the development of Ferrotypes and Bromide Paper Prints. There is also a chapter on Varnishing. The book is nicely printed, easy to understand, and is gotten up by a practical photographer who has had the advantage of an extended experience in all kinds of photographic chemicals.

THE BRITISH JOURNAL ALMANAC, 1892. With advertisements 1168 pages, reading matter and Almanac 430 pages.

The book is fully equal to its predecessors in useful information and other features. It has for a frontispiece a direct bromide print made by Morgan & Kidd from a negative of H.

I. M. William II., German Emperor. The editor gives an extended description of various panoramic cameras, and has a number of pages allotted to "The Elements of Practical Photography," which will be valuable to those beginning the practice of the same. There are useful articles on the treatment of bromide and albumenized papers, descriptions of new apparatus, diagrams showing how to make hand cameras, interesting notes on emulsion making, articles on enlarging and lantern-slide making, on carbon printing, and numerous receipts, formulas, and tables. We advise every photographer to secure a copy, to be had from most dealers in photographic materials.

WHAT CAMERA SHALL I GET? is the title of a neat and readable little pamphlet issued by the Blair Camera Co., written by Mr. Julius Wilcox.

United States Photographic Patents

Issued during December, 1891.

December 1st.

464,059—Photometer and Actinometer. L. H. Barker, Williamsport, Pa.
464,260—Photographic Camera Shutter. A. G. Tisdell, Brooklyn, N. Y.
464,359—Device for Copying Pictures. L. A. Hagan, Little Rock, Arkansas.
464,384—Tripod. S. J. Osborne, Alleghany, Pa.
464,462—Lens Supporter for Photographic Camera. Charles Mills, New York.
464,471—Tripod. J. L. Brown, Atlanta, Ga.

December 8th.

464,783—Magazine-Camera. T. S. Wiles, Albany, N. Y.

December 15th.

464,998—Shutter for Photographic Apparatus. W. E. Schneider, Washington, D. C.
464,999—Tripod. W. E. Schneider, Washington, D. C.
465,178—Photographic Process for Printing in Colors. J. C. Hosch, Vienna, Austria Hungary.
465,277—Photographic Printing Frame. H. Kuhn, Springfield, Mo.
465,409—Projecting or Optical Lantern. O. Knife, Philadelphia, Pa.

December 22d.

465,740—Coin-Operated Photograph Machine. P. V. W. Welsh, New York, N. Y.
465,802—Multiplying Camera. J. C. Randall and W. E. Price, Cincinnati, Ohio.

December 29th.

466,000—Photographic Printing Frame. A. Barker, Peekskill, N. Y.

ADVERTISEMENTS.

SALE AND EXCHANGE.

[This department is for the benefit of SUBSCRIBERS who have photographic material, apparatus, or books, which they wish to exchange, and such wants will be inserted free of charge. The number of insertions given will depend upon the number of exchanges received each month. Subscribers will please notify us when articles have been exchanged or sold.]

Wanted.—4 x 5 Detective Camera, worth at least $18, in exchange for Rosewood Autoharp, case, and music. W. M. Ostrander, 212 Wyoming Avenue, Pittson, Pa.

For Sale.—A No. 1 Gundlach 4 x 5 Rapid Rectigraphic Lens, 6¼ inches equivalent focus, with set of stops, specially made for hand cameras, good as new, price $14. Charles Lurcott, 361 Broadway, New York.

For Sale.—A leather-covered Hawk-Eye Camera, Blair lens, six double film carriers, folding lamp, developing outfit, etc., in complete order. Cost $43; price $25, cash. Apply to W. Anderson, Youth's Companion Office, 41 Temple Place, Boston.

For Sale or Exchange.—A finder; an upright microscope; 2 extra objectives in case; a Taylor tripod; a 5 x 8 press for blue or black prints; 1 tin painted camera and 6-holder case; 1 ruby globe lamp; 1 fixing dish, 6½ x 8½ plate; 1 nickel-plated pyro scales; 1 feather-weight double holder, 6½ x 8½ plate; 1 pair scales and weights; 1 zinc settling-filtering tank, 10 gal.; 1 coal oil stove; 1 portable dark or developing room, about 2½ x 5½ x 6½ feet, on castors. I want 3¼ x 4¼ Anthony's Bicycle camera, or 5 x 7 Montauk Detective camera. Will receive or pay difference. J. Siler, 1006 S. Seventh Street, St. Louis, Mo.

For Sale.—A 11-inch nickel-plated Acme Drag Burnisher with oil lamp, little used, good as new; will sell for $15. Also a 15 inch Acme Burnisher, in excellent condition, for $25. George Mead, 361 Broadway, New York.

For Sale.—Bausch & Lomb diaphragm shutter, 6½ x 8½. $10.00 if taken quick; also periscopic lens, 15-inch focus, $3.00; Hawk-Eye camera, in good working order, $10.00. J. E. Davison, 12 Ashley Street, Central Falls, R. I.

For Sale.—A very good make of magic lantern, with large condensers and Darlot objective, can be used with oil or lime light; price $35 without gas jet; $45 with. Address, office of AMERICAN AMATEUR PHOTOGRAPHER, 361 Broadway, New York.

For Sale.—8 x 10 Victor Camera, one double holder, nearly new, $12. A. G. Drobisch, 504 Broadway, Lincoln, Ill.

For Sale.—One 8 x 10 Waterbury S. Swing Camera, fine hard oil polished, full nickel-plated, used but once, with one double holder; cost $27, will sell for $15. A. G. Drobisch, 504 Broadway, Lincoln, Ill.

For Sale or Exchange.—A Ross Portable Symmetrical 5 x 8 Lens (wide angle), but little used; will sell for $20 cash, or exchange for 5 x 8 Rectilinear of first-class make, equal values. E. F. W., Box 142, Putnam, Conn.

For Sale.—6½ x 8½ Eastman Camera, 6 double holders, 5 x 8 roll-holder to fit camera back, all nearly new, hardly a scratch; price, new, $60; will sell for $42; want good 8 x 10 camera in exchange. H. C. Penn, Columbia, Mo..

For Sale.—One No. 2 Kodak, loaded; price $32.50, sell for $22.50. One No. 3 Kodak, partly loaded; price $40, sell for $25. One 8x10 Rochester Universal Camera, double swing with three double perfection plate-holders, carrying case and Albion tripod; price $51.70, sell for $38.70. One 5x8 Albion Camera, double swing with six Albion double plate-holders and six double cut film-holders, carrying case and Albion tripod; cost $71.40, sell for $53.50. One Alvan G. Clark No. 5 wide angle lens, 6⅛ focus, covers 8x10 plate; price $30, will sell for $24. One Prosch Triplex Shutter, 1½ aperture, with rotating stop; price $16.50, sell for $12.50. All the above fine apparatus used only few times, and is good as new. Address Amateur, care Ill. State Journal, Springfield, Ill.

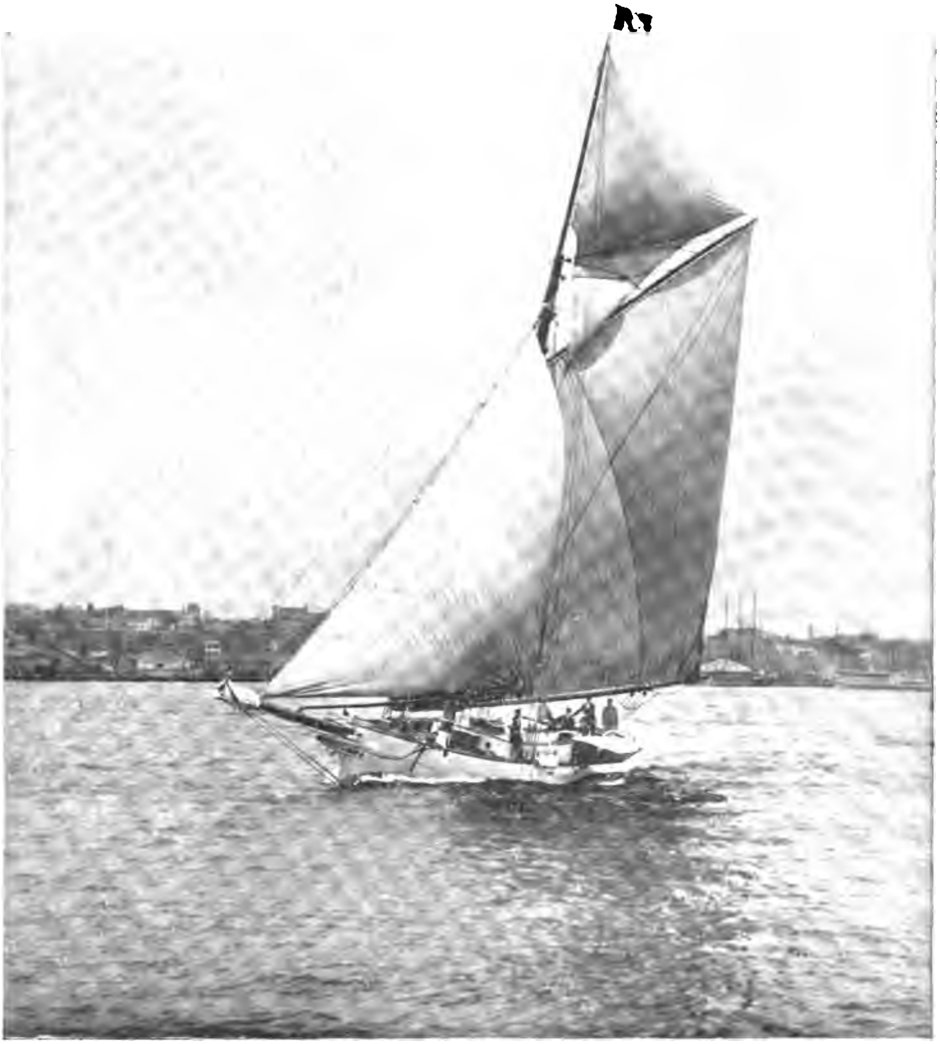
For Sale or Exchange.—A No. 7 B Voigtlander lens, in perfect order; cost $160, will sell for $80 and a Semmindinger S. S. Mahogany Camera, in good order; cost $55, will sell for $20, and a 11x14 Wing Camera stand; cost $25, sell for $10. Or will sell all together for $100 cash, or exchange for a good 4x5 Detective Camera as part pay. Address Camera, Box 66, Elmwood, Mass.

For Sale.—6½ x 8½ Blair Reversible Back Camera, Gray's Periscope Lens, pneumatic shutter, four plate holders, kits, tripod, cloth and carrying case. Good as new, only used on two dozen plates. Cost $70; will sell for $50. W. A. Weaver, Emmetsburgh, Iowa.

For Sale.—Book on Photo-engraving, Photo-etching, etc., by W. T. Wilkinson, and revised by E. L. Wilson, last edition and new, $2.50. W. J. Hussey, Mt. Pleasant, Ohio.

Mrs. I. J. Hoag, Wevertown, N. Y., wishes to sell a Marcy stereopticon with views, screens, etc., used by her late husband in church and Sunday-school work. Write if you want a good lantern cheap.

For Sale.—An eight (8) inch Rotary Entrekin Burnisher, with swing fire-pan, and also with an Acme gas heater. Original cost of the whole, $13. Will sell for $8. Fine condition. Wm. C. Patterson, corner Lake View and Sixth Sts., Jamestown, N. Y.



NEGATIVE BY S. TUDOR STRANG.

YACHT "MINERVA."

THE AMERICAN
AMATEUR PHOTOGRAPHER.

VOL. IV. NEW YORK, FEBRUARY, 1892. No. 2.

Our Illustration.

THE subject of our illustration is the yacht "Minerva" sailing on the Delaware opposite the city of Philadelphia. It was taken on July 10th, at 10 A. M., under a bright light with the sun occasionally obscured by light clouds. A Seed 26 plate, with a Bausch & Lomb lens, diaphram $\frac{f}{22}$ and the same shutter set at $\frac{1}{100}$ of a second (its fastest speed), was used. Every portion of the yacht is distinct and clear, and the negative was remarkable for its brilliancy and clearness. Our reproduction does not render the details as clearly as they are noticed in the negative or albumen print. We think the negative was developed by eikonogen and potash.

It was made by S. Tudor Strang, president of the Columbia Scenographic Association, of Philadelphia, Pa., and its chief interest centres in the fact that it was the negative awarded the grand prize of $200 in the Bausch & Lomb lens and shutter contest, particulars of which will be found on page 83. Mr. Strang had a series of excellent yacht negatives, all of fine quality; but the yacht "Minerva" was selected as the best of them all.

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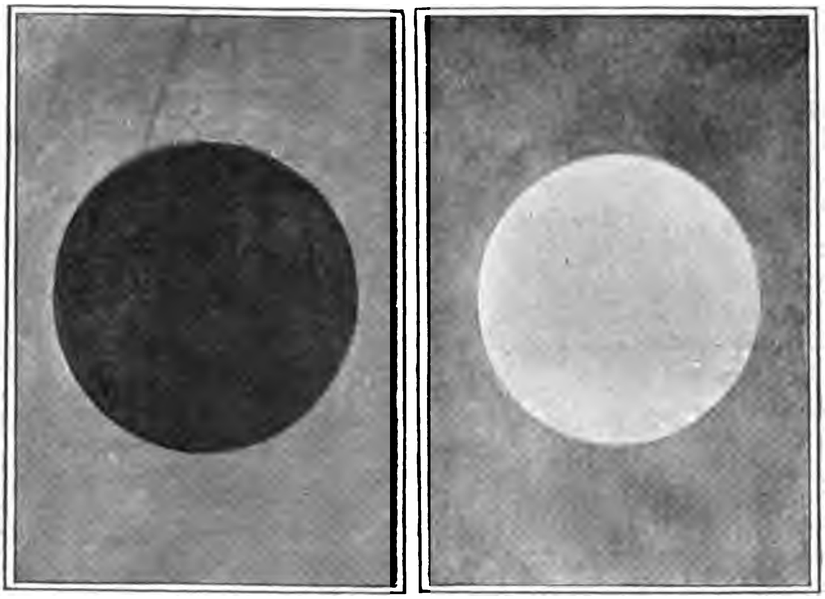
Orthochromatic or Isochromatic Photography.

BY CHARLES FORBES, M.D.

THE object of this article is to state clearly what is meant by Ortho or Isochromatic Photography. Probably all photographers have heard of orthochromatic and isochromatic plates.

The writer has met a good many, both professional and amateur, who do not know what the terms really signify; hence an article on this subject at this time will be quite opportune.

The terms orthochromatic and isochromatic are used synonymously. Is a preference, however, to be given to either one of the terms? This question is answerable by referring to the etymology of the words; both are of Greek origin. The term isochromatic is a combination of two Greek words meaning equal and color—that is, having the same color. This term has for many years been in scientific use, and it has a definite technical meaning in physics, independent of any photographic application ; so that its meaning is established in relation to color and nothing else. The term orthochromatic is also a combination of two Greek words, meaning straight, right, true and color. The term, therefore, signifies correct colors. This is a new term, not yet found in the dictionaries, and has only been used in connection with photography. Now, it would seem, in view of the facts above stated, that the term orthochromatic is the more suitable one to use in connection with photography. The terms are, however, both misleading, for they convey the idea of the actual photography of colors; whereas, what is really meant by orthochromatic photography is the photography of colors in such a way that their relative value as regards light and shadow will be preserved.



ORDINARY PHOTOGRAPH. ORTHOCHROMATIC PHOTOGRAPH.

Of a Yellow Disk upon a Blue Background.
Both plates made from the same emulsion.

In this article the writer will make use of the term orthochromatic, limiting its meaning to the definition just given.

It is known to every experienced photographer that the colors of the solar spectrum, which are in order of their refrangibility violet, indigo, blue, green, yellow, orange and red, do not affect the photographic plate as they do the eye. For example, the yellow is spoken of as the most advancing color and the violet as the most retiring in their visual effect—that is the yellow is a light color as compared with the violet, which is dark. Now, suppose we attempt to photograph a yellow disk against a violet, indigo, or blue background, what will be the result? Fig. 1 answers the question —a dark disk upon a light background, whereas the eye demands a light disk upon a dark background.

The question that now presents itself is: Can the photographic art satisfy the eye in regard to the light and shadow values of the colors? There is no longer any doubt in regard to this answer. It can. An inspection of Fig. 2 shows a photograph correct in light and shadow, a light disk upon a dark background: the eye is satisfied. Fig. 1 is the result of photographing with an ordinary plate, and Fig. 2 with an orthochromatized plate from the same emulsion.

Certainly here is a remarkable step forward in the photographic art, and the question that naturally arises is: What is the philosophy of it all?

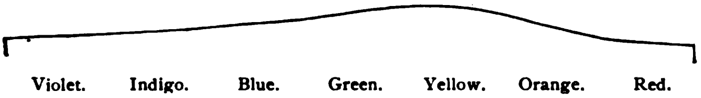
After a long series of experimental work and laboratory investigations the writer believes that he has gained some photographic knowledge of the facts that will be of interest to the reader, and with the aid of the illustrations herewith presented the subject will be clearly understood. A scientific understanding of this subject requires that we should have a knowledge of the vibratory theory of light. According to this theory, all space is filled with an exceedingly light and elastic gaseous substance called the luminiferous ether. It is believed to exist in the atmosphere, beyond the atmosphere, and also in all transparent bodies. This substance is capable of receiving vibrations from all luminous bodies and transmitting them through space, and on entering the eye and falling upon the retina they produce the sensation of light or vision.

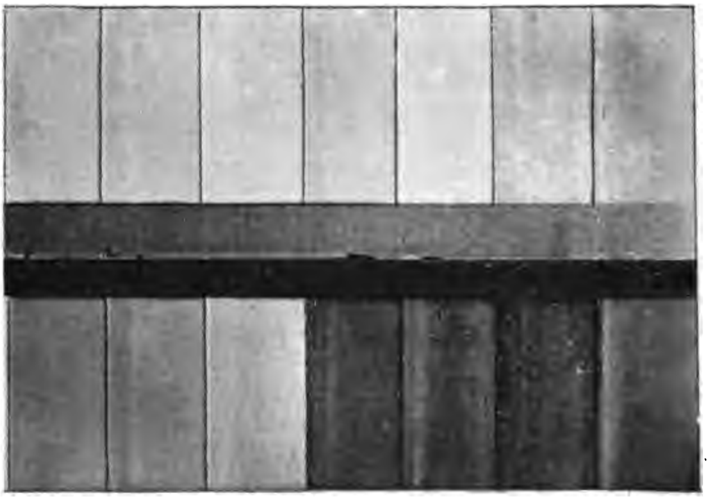
Light from the physiological standpoint may be defined to be the sensation produced in the eye by vibrations of the luminiferous ether caused by luminous bodies. This is very analogous to what we know to be true of sound; which may be defined to be a sensation produced upon the ear by vibrations of the air caused by sonorous bodies. A knowledge of the facts connected with sound suggested the vibratory theory of light. With this analogy in mind we will be able to understand how the sensation of colors is produced.

Color is to light what pitch is to sound. In sound we know that pitch is dependent upon rapidity of vibration. The human ear is so constituted that it is sensitive to pitch, ranging through about eleven octaves beginning with 16 vibrations per second, and terminating with about 38,000. The human eye is, however, so constituted that it can perceive but one octave of color. The most rapid vibrations of the luminiferous ether affecting the eye, 789 millions of millions per second, produce the sensation of violet, less rapid indigo, and so on through blue, green, yellow, orange, and finally red produced by 451 millions of millions vibrations per second.

Vibrations of the luminiferous ether are known to be more and less rapid than those producing color sensations. The former being called the ultra violet, and the latter the ultra red vibrations. Experiment reveals the fact that while all of the light vibrations affect the photographic plate, the more rapid vibrations affect it most intensely. The property of light enabling it to produce chemical changes is sometimes called its actinic power. This power is simply dependent upon rapidity of vibration.

CURVE OF COLOR INTENSITY.





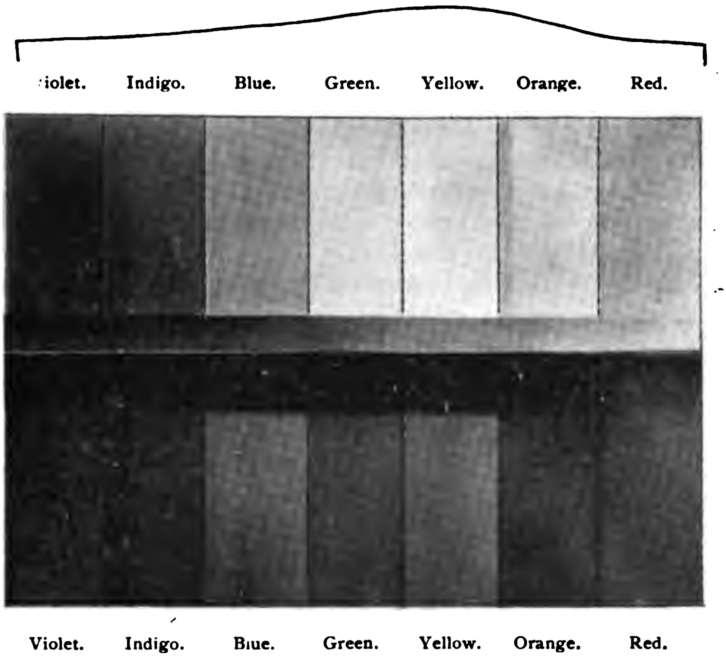
COMPARATIVE COLOR VALUE TESTS, WITHOUT SCREEN.

The upper half from Orthochromatic, and the lower from ordinary plates. Both from the same emulsion, and exposed, developed and printed simultaneously.

Now, if we can in the process of photography cause the curve of chemical intensity to coincide with the curve of color intensity, we shall be able to obtain photographs satisfying the eye, in regard to light and shadow values. It might seem, from the statements above made, that this would be a photographic impossibility, but we are to remember that all color vibrations have the power to affect the sensitive plate.

At this point the reader will be interested in a description of the experiments performed by the writer, and also in the examination of the comparative results, as exhibited in the illustrations. The illustrations accompanying this article are from photographs made on plates from the same emulsion. A part being ordinary and the remainder from a part of the emulsion being orthochromatized.

In each comparison the two kinds of plates were exposed simultaneously, and developed together for the same length of time. The object photographed was made up of colored ribbon, the intention being to have the colors represent as far as possible the colors of the solar spectrum. The selection of tints was made by comparing the colors of the ribbon with the colors of the decomposed sunlight, as viewed through a glass prism.



COMPARATIVE COLOR VALUE TESTS, WITH SCREEN.

The upper half from Orthochromatic, and the lower from ordinary plates. Both from the same emulsion, and exposed, developed and printed simultaneously.

Fig. 3 is a photograph of the test colors, the lower half being on the ordinary and the upper on the orthochromatic plate. This photograph was made in the usual way of photographing objects, no colored screen being used. A general inspection of the upper and the lower half will reveal the fact that the orthochromatic plate is much more sensitive than the ordinary. This is, however, not a characteristic of all ortho plates. It is, however, specially true of all of the emulsions treated by the writer.

On examining the effects of the different colors, it will be observed, as the reader must already anticipate, that with the ordinary plate the violet, indigo and blue have affected the plate the most markedly. Whereas, the green, yellow, orange and red, lighter tints, are photographed dark. An examination of the photograph from the ortho negative shows something markedly different. Here, it will be observed, that the red end has affected the plate as well as the violet. The yellow stands out most distinctly, as it should. The eye is better pleased with the result.

The horizontal band across the illustration is a photograph of black ribbon, the dividing line is where the edges of the two plates came together in the simultaneous exposure. An examination of this is instructive. The fact is revealed that the "ortho" plates when exposed for the same length of time appear to bring out more substance in the blacks, and, for this reason, will reach farther into shadows.

Fig. 4 illustrates what may be accomplished by using a yellow-tinted screen. It may be colored glass, gelatine or any transparent substance. It may be placed in front of the photographic lense, behind it or in the diaphragm slot. If it is homogeneous throughout, and its surfaces plane and parallel, there will be no distortion of the image.

An inspection of Fig. 4 reveals the fact that there is a very marked difference between the "ortho" upper half and the ordinary (lower half) plate. The former has photographed the prismatic colors in such a manner that the yellow stands out the most prominently, and the others follow the curve of color intensity, and thus correctly representing the light and shadow values of the colors. The ordinary plate, with the screen, as an inspection of the lower part of Fig. 4 reveals, gives results very unsatisfactory. The difference is so marked that there can be no doubt that the "ortho" plates possess properties that are not to be found in the ordinary.

To return to the discussion of the question : What is the occasion of results so very different from those obtained in ordinary photography ? It is by subjecting the ordinary emulsion or the finished gelatine plate to a process of dyeing. The users of "ortho" plates must have noticed that they are tinted a yellow or pink color. This is the fundamental fact in the whole process. The question will now be asked, Why should a photographic plate tinted pink or a light red have orthochromatic properties? We will now return to the vibratory theory of light, and ask, why is a red object red when lighted by the white sunlight ? The answer is that there is some peculiar chemical property of the red dye used that enables it to receive and reflect the luminous vibrations producing the sensation of red light;

the other vibrations being to a certain extent destroyed or quenched. This explanation will explain the color sensation produced by all other colored objects. That is, each colored object is sensitive to the color vibrations in unison with itself; all others are partially insensible.

Now, it will be readily understood that when the white sunlight falls upon the pink-colored plate that the red end of the solar spectrum is favored and the blue end interfered with. Right here the thoughtful reader will suggest that theoretically considered "ortho" plates must be less sensitive than the ordinary. Such has been and is now the case with some of them. Methods are now being used by which this tendency is being overcome. The inspection of Figs. 3 and 4 must have convinced the reader that the "ortho" plates used in connection with the illustrations must be at least fifty per cent. more rapid than the ordinary from the same emulsion. This is particularly noticeable in Fig. 4.

The explanation of the action of the screen is as follows: We will suppose that a piece of canary yellow glass has been selected for the screen and that it has been placed in the camera, back of the board supporting the lens. Now, it is evident that all of the light reaching the sensitive plate must first pass through this yellow glass. The yellow glass acts, so to speak, as a strainer. That is, it allows the yellow light vibrations to pass through and the other color vibrations are to a very considerable extent held back. This is particularly true of the colors of the violet end of the solar spectrum. Thus there is opportunity afforded for the colors, green, yellow, orange and red, produced by slower luminous vibrations, to affect the sensitive plate.

It will be understood now that the screen works conjointly with the red dye in the "ortho" plate. Or it supplements its work. It will be readily understood that the time of exposure must be increased when the screen is used, at least doubled. It will also be inferred that an orange-colored screen would favor the orange light and a deep red orange screen the red. However, for all practical purposes the yellow seems to be the most satisfactory. At this point some of my readers may suggest, why not carry the dyeing of the photographic plate to such an extent as to dispense with the screen? This is the direction in which experimenters are working. Up to the present time nothing has been accomplished without the screen beyond what is represented in Fig. 3. The writer has tested all of the "ortho" and "iso" plates in the market and none of them have surpassed the results illustrated in Fig. 3. In fact, most of them fall far below this. And when used with a screen some of them are so slow that for ordinary photography they are impracticable. When, however, the emulsion is made so much more rapid in the ortho-chromatizing process as in the case cited, we have a compensation in part, at least, for the slowness occasioned by the screen.

That the "ortho" will soon supersede the ordinary plates there can be no doubt. They will accomplish in ordinary photography all that can be done with the ordinary plate. Their increased sensitiveness when properly made is a consideration of very great importance in many kinds of work. Then, added to all this is the fact that the colors may be represented by their true light and shadow values. We have here certainly taken a great step forward in the photographic art. To the landscape photographer, here is something greatly to be desired. We have now the means of securing the beautiful atmospheric effects of distance. The negatives need not be cloudless when there are clouds to photograph. The beautiful tints of foliage may be correctly depicted. The professional photographer in the studio will recognize their advantages without here having them enumerated.

In the arts, where photography is of use, we now have the means at hand of very satisfactorily representing objects, particularly where colors abound. This statement is so self-evident that it is not necessary in this article to go into details. This is a step forward, and a step in the direction of color photography.

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Lantern-Slide Work.

[Read before the Brooklyn Academy of Photography, January 20, 1892.]

BY CATHERINE WEED BARNES.

THERE are usually two sides to every question, and one is well-endowed whose eyes cover a wide enough angle to include both of them. Cultivating mainly one side of any art or science is apt to make the worker believe that his peculiar "doxy" is the only "doxy" to be considered of importance. In viewing such a case, I would be willing to drop my prejudice in favor of long focus lenses and get just as wide an angle as was procurable, panoramic in fact. Therefore, while I admit that, to some extent, lantern-slide exhibitions in America have crowded print-making to the wall, and that the latter should make a more often repeated and positive showing, I am not at all willing to consider it even possible that interest in slide work should decline. It has too real and important a bearing on the progress of photography for that. As, however, there are some camerists whose forte is negative-making, not printing, and vice-versa, so there are natural slide-makers and others who utterly fail in it. Mr. Alfred Stieglitz, who read a paper in New York last week on slide toning, and who gives an exhibition of them there to-night, has, in a few weeks' time, won a reputation of which any slide-maker might be proud. Others labor for months or years and rarely, unless by chance, succeed. With him it is the result of not only genius, but long training in similar lines of work. When I became a slide-maker, less than two years ago, it was with a mind made up for months, at least of study and practice. Having the usual very uncertain idea of how slides are made, and not judging it best to waste time or materials working blindly, besides, having no faith whatever in my particular photographic star, I went directly to an expert and he gave me an object lesson. It looked difficult, but I was determined to learn and was thankful for his sharp criticisms. Those first slides found favor in the eyes of the Lantern-Slide Interchange and my fate was sealed, I was given over to the tender mercies of the slide demon, whom, if you serve once, you are bound to serve henceforward. That magnetic influence is upon one forever, and the confirmed slide-maker, when once committed to the work, seldom looks at a negative, except in the light of a possible slide. Otherwise it has little interest for him, and he gets to making all his own with that end in view.

One feature, I understand, of the coming Boston Exhibition, in May 1892, is to be competitive slides made not only from good negatives but also poor ones to see what can be done in the way of redeeming them. It would hardly seem as if any really good end could be served by this step and as if it would do much to encourage careless work with negatives. There are altogether too many people now who fail to give proper painstaking attention to preparing a negative. I do not mean simply exposure, but development. The plain truth is that although with infinite care and patience a presentable slide can be made from any negative which has a tolerable amount of detail, if you want a really fine slide you need a negative with enough of both detail and density to make a good silver print. Life is too short to waste time in trying to make up for what should be well done in the first place. Opinions differ as to the respective merits of contact and reduction slides. I early gave in my adhesion to the latter and see no reason for changing my decision. The weight of argument especially among English workers, and they do know how to do it, seems emphatically in favor of them. Where one works from a number of different-sized negatives, contact work from the large ones forces some of the picture to be left out and, if small, unless the negative is remarkably sharp and clear in detail, the slides are likely to have a hazy, out-of-focus look. It is vastly easier and more economical to work from small negatives than large ones, but reduction yields every time slides which can be thrown on a large screen and not lose by it. I can see no really valid reason for using contact slides except that it is then possible to use smaller plates for the negatives, which is, of course, much less trouble. This great desire of saving trouble is very much on the penny wise and pound foolish order and, while I do not believe in taking unnecessary trouble, I do most firmly believe in not spoiling any results for lack of just a trifle more time and care. Above all things, do not hurry. "More haste, less speed," should be printed in extra large type over every developing sink in the land. The laws of Nature are fixed ones and more will be accomplished by working within them than by trying to find a short cut. If there ever is a time when slow development is called for it is in this work, and a veteran worker once told me, "You can't develop too slowly with slides." Take one of those small figure negatives, for instance, where the hair has a sort of cottony, canton flannel look, either from careless focussing or over retouching, make a contact slide from it and throw on the screen. You cannot tell whether the head is covered with hair or some artificial wrapping. Especially is this noticeable when the hair or drapery is distinctly focussed about half way, but the rest is left decidedly, to say the least, indistinct. The line of demarcation between the distinct part and that which is mis-called "soft" is sometimes so clearly indicated as to make it appear, not that the operator was artistic, but that he did not wish to bother himself about a careful focus. Indistinctness has its proper value in artistic work, but it never should be seen outside of landscapes, save where, in some fancy study, its place is clearly indicated. There is danger, though, that this reaction from the fuzzy school may run to the opposite extreme, so it would be well for every camerist to keep close watch and not let himself drift to either side. I once gave considerable attention to oil-painting reproductions of mosaic work on slate which necessitated using a magnifying glass and tiny, sharp-pointed brushes. The very success with such close detail frightened me into the severe remedy of attempting frieze decoration, working on a scaffolding with two or more palettes and large bristle brushes. The lesson, however, was effective. Need I point the moral?

My experience in slide-making has taught me a few things which I wish to strongly emphasize on my hearers. The fact of a good negative being a prime requisite for success is one, and also that as a general custom slide views are made too large on the plate, to say nothing of another just as important a point, that a great proportion of slides could be matted down far more severely than is usually the case. The whole character of a picture can be made or marred by the selection of a mat. It is a good sign that workers are giving up the old-fashioned, before-the-ark style of mats, and designing an agreeable variety which not only rests one's eyes, but has some appropriateness to the subject of the picture. Reducing from negatives of sizes varying from 4x5 to 14x17 has obliged me to have a number of adjustments on my camera. The first one was a cone for 11x14 negatives, about as long as the camera itself, an 8x10, and with it I use a Ross R. S. lens. With larger negatives a temporary addition has to be set up. Generally the run of negatives being 5x7 or 8x10 allows dispensing with the large cone, though I sometimes use a small one, and then my Dallmeyer W. A. comes into play. This latter being my favorite for interiors, made it necessary to arrange the front boards of the two cameras, so that the smaller could slip into cleats over an opening in the larger, and not oblige me to constantly readjust the flange. Then the cumbersome plate-holder was given up and a very convenient one made for me, which is regular slide size, and the framework into which it fits can be slipped up or down or sideways to correct inaccuracies in the negative. The whole apparatus rests on a platform elevated at the negative end to face a north light and around it is another platform built for convenience in working. The top of the shelf is hinged at the plate end and raised at the other by a revolving screw. To those who have not tried a removable ground-glass sash in the window, let me recommend it as very excellent. One foreign writer urges using an opal glass a few inches behind the negative.

The question of exposure opens a broad field, and it would seem as if many slides were spoiled because their makers do not go about the work thoughtfully enough. A beginner asked me recently how long an exposure I gave for slides, as if that could be settled once for all, seeming surprised when I explained why it was impossible to answer him. My custom is to focus as sharply as possible to begin with and not use a small diaphragm. Also, not to allow the camera to remain at the same focus for any two consecutive negatives, even of the same size and density, without a special examination every time. I do not believe in chancing anything in camera work, but always have a reason for it. When working in the morning it is a good plan to lessen the exposure slightly as noon approaches, and after that increase it. The slides shown to-night were made at all hours of the day up to four o'clock, there being no difference between the two parts of the day, except that I doubled my time of exposure in the afternoon. As to plates, each slide-maker seems to work better with one kind than another, and it does not militate against any that this or that worker can do nothing with it. Much depends on the subject of the picture, and a plate that would answer for landscapes may be useless for portraits or figure studies. In a recent paper an English writer complains of the great prevalence of black and white slides and the want of half-tones, but a visitor to the Pall Mall Exhibition last autumn told me the reverse was attributed to the American slides. What is to be done when doctors disagree? One point which should be remembered is the difference in the illuminating power used in the lantern and how greatly it should affect the density of the slides. At the exhibition in New York last May two lights were compared, and Professor Laudy's arc-light completely blotted out the oxy-hydrogen. It was a very hard test for the slides shown. Advocates of the wet and dry plates argue back and forth as to their respective merits, but I believe if a good negative is used and a fresh dry plate, that it would puzzle the most bigoted wet-plate worker to see much, if any, difference. Particularly is this true when the plate is over-timed, put in a dilute bromide solution for two or three minutes and then developed only for detail. After fixing and washing it is well to dip the plate a few times, but not let it remain, in a saturated alum solution containing a few drops of sulphuric acid. I do not think there is anything equal to this for clearing a plate, even acid-sulphite in the hypo does not come up to it. In the proportion of one ounce sulphuric acid to thirty-two saturated alum it acts as an excellent reducer. The plate slightly rinsed, I then bleach it, and intensify with what is called silver intensifier, the only made-up solution I ever use. The result is generally successful. Lately I have been testing some English plates, finding it needful to greatly increase the time of exposure, and while they are good they do not improve on the American ones. It seems hard to get brilliant contrasts and soft half-tones in the same plate, but with the process described it can be done. My first developer was ferrous oxalate, but, at the suggestion of Mr. F. C. Beach, I tried eikonogen, with the result of banishing the former into "innocuous desuetude." Paramidophenol is said to combine all the developing virtues, so I gave it a fair trial. While acknowledging it is good, I do not think it any improvement on eiko.

All sorts of new chemicals find their way into a photographic editor's sanctum, so I was recently sent a sample of the highly lauded "Rodinal" to experiment with. It is simply the most unmanageable developer I ever handled and requires to be tied down, so to speak, like the towers one sees on high mountains, or it will run away with the image. Recovering my breath after seeing what I supposed a correctly exposed plate blacken over like a flash as soon as the solution touched it, I put on the brakes, or in other words, diluted it with three-quarters water and a little bromide and it began to behave more reasonably. Used according to what is called a normal developer, I would advise adopting the block system of development. To those who like startling experiences I recommend Rodinal for slide work, though, to tell the truth, it seemed to work better with the English plates than the faster ones. It is simply extra strong "Para" and must be used with great caution. Plates developed with eikonogen lend themselves to intensifying and toning readily, and if it works too slowly from being kept too long, a little carbonate of potash remedies the trouble. In starting on a day of slide-making it is usual with me to make a trial exposure and use a normal developer. Watching development carefully, it is not difficult to determine future exposures, allowing for excess or lack of density in the negatives. My normal developer is a half-drachm of saturated carbonate of potash, two ounces of the eiko solution, which contains a little sulphite of soda and about an ounce of water. The less bromide the better, as it is like using turpentine to dry one's colors in oil-painting and is so apt to make harsh contrasts. Some workers object so strongly to the variability of daylight in making exposures that they use a condensing lantern with lime or other artificial light for either contact or reduction slides. This has some very positive advantages, as will readily be seen.

I have noticed in lantern exhibitions that the audience is apt to enjoy best those slides whose subjects interest them, regardless of their technical or artistic merits often passing over those which are of a high order for others which have no merit except choice of subject. This fact should be remembered in making up a collection, as it is not entirely instruction but pleasure that should be furnished. It seems strange that, in every society, this work is done by so few of the members, when it is one of the most fascinating branches of photography, yet such is generally the case. The Lantern-Slide Interchange is doing a splendid work and a hard one, but it is gaining more appreciation as a more intelligent knowledge of its objects is becoming wide-spread. Slide-making is capable of growth like all other branches of camera work, but it will repay all the labor put upon it. So many more people can gain pleasure from it than from prints alone that I feel like urging it on the attention of all camerists. So great has proved its fascination for me that I have my own oxy-hydrogen cylinders and lantern, testing every slide I send out, being my own sharpest critic. It is a good plan to have an appointed critic at every exhibition to point out defects and merits with their whys and wherefores, but Mr. Sutcliffe urges a severer remedy for shortcomings in this respect. He recommends having a lord high executioner stationed near the lantern to smash all offending slides. Pray, do not judge the work shown to-night by the above strict ruling, but allow me to say with Portia :

"If to do were as easy as to know what were good to do, chapels had been churches, and poor men's cottages princes' palaces. I can easier teach twenty what were good to be done than be one of the twenty to follow mine own teaching."

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EXPERIENCE WITH SLIDE PLATES.

BY ALFRED STIEGLITZ.

WHEN the writer began experimenting with lantern slides he accidentally struck on to a box of fresh Carbutt slide plates, and, inasmuch as the results gained with these were satisfactory in every respect, he did not heed the advice of older slide-makers to try Eastman plates; for he believes in sticking to a good thing when he imagines he has found one, and not change around from one thing to the other without a very good reason for doing so.

His first slides were developed with that good old "*Reliable*":

Hydroquinone,	100 grains.
Sodium Sulphite	400 grains.
Carbonate of Potash	300 grains.
Water	20 oz.

diluted with water ; in short, with a *one* solution developer. This batch of slides having proved successful, several dozen of Carbutt plates were at once ordered, and these were then treated exactly in the same manner as the first batch. The whole lot were a dead failure, everything being all right excepting the color of the gelatine; instead of its being white and absolutely transparent, its color ranged from a bright yellow to a deep orange. What could have caused this stain was the natural question which arose. Was it the old one-solution developer? Was it the long development, prolonged on account of the low temperature in the dark room? Or, were the chemicals at fault? These questions were all satisfactorily answered in time, inasmuch as each question was scientifically investigated. The writer came to the conclusion that the stain was due to something quite different, and hence the lot of "yellowed" slides were thrown into acid, and afterward used as covering glasses. Thinking that perhaps a trace of hypo might have made all the mischief, a new set of trays, bottles, chemicals and plates were procured, and slide-making was started afresh—this time with a very fine result, all the slides being technically faultless. The next batch of plates, bought at a different dealer's, turned out to be stained again, and my host of friends, who had heard of my fortunes and misfortunes, shook their venerable heads, muttering: "Try Eastman."

A gentleman well known in photographic circles, and an expert at slides, was kind enough to offer the writer a box of his Eastman plates, remarking: "Try these; expose about one and one-half times as long as you would for Carbutt." The writer followed this kind advice, but upon developing, found that there was only a trace of an image upon the plate. A new plate was exposed, and instead of four seconds, as given to the Carbutt, forty seconds were given, and still the slide was undertimed considerably. *Three full* minutes were then given to a fresh Eastman plate, and a slide *equal* to the one on a Carbutt plate with four seconds time was the result. The Eastman slide being perfectly clean and clear, and having been developed with the same developer as used on the stained Carbutt slides, was conclusive proof that the developer was not the cause of the yellow stain, and that the plates themselves must have had the germs of the yellow stain in them.

Fortunately, the writer had kept all the boxes in which the plates had been originally packed, and, upon examining the emulsion numbers of each, made the following observation: All slides made with a *fresh* Carbutt emulsion were stainless; all those made on *older* emulsions were stained.

Following up these observations with experiments, the following conclusions were arrived at: The Carbutt slide emulsion deteriorates in a much shorter time than the Eastman, probably due to the excess of iodide of silver and traces of free iodine in it, used to make the emulsion work clear. In a slow plate, like the Eastman, the amount of iodine of silver, if used at all, cannot be very great.

Having arrived at the fact that the stain was due to some iodine compound, probably that of iodide of silver and iodide of gelatine, it was tried to bleach a stained slide with bi-chloride of mercury, and with success; for after having bleached the stained slide and darkened it then with ammonia again, the resulting slide was very acceptable, the stain having disappeared entirely with but a trace of fog remaining, which was hardly visible on the screen. This strengthened the iodide of silver theory; the bi-chloride of mercury probably forming a double salt, containing chloride of silver and a trace of iodide of mercury, which would produce a trace of red fog. The elimination of the stain with bi-chloride of mercury was therefore not entirely satisfactory, and hence other methods were tried with better results, some entirely satisfactory. Carbutt slides, stained yellow to orange, caused by the presence or an excess of iodide of silver, can be treated with a very weak solution of cupric bromide; then exposed to the light for a few seconds, and redeveloped with any old developer, preferable hydroquinone, after which the slide is fixed in hypo and washed. The stain will have disappeared entirely, and the resulting slide will be technically all right, without a trace of fog. Instead of using cupric bromide, a solution of bi-chromate of potash and hydrochloric acid may be used for the bleaching purpose.

These experiments have not yet been completed on account of lack of time, but thus far the writer's slide-making experience can be summed up:

I. *Use fresh plates for slide-making!* Always examine the emulsion number before buying, and *never* trust the salesman, who is generally glad to use you as a waste-basket for old plates and papers, unless you are on the continual lookout. This warning is the first step to success in photography.

II. For good quick work, use Carbutt plates, giving them sufficient time, and developing with a dilute developer until the image looks pretty dense in transmitted light. The resulting slide will be of an agreeable warm tone. For dark days, these plates are indispensable in the reduction camera.

III. For thin negatives, and for exceptionally brilliant slides, use Eastman plates. Inasmuch as they are at least 35 to 45 times as slow as Carbutt, the exposure for thin negatives is more under control than with a faster emulsion. Develop with a stronger developer than you would use with a Carbutt and do not develop as far, inasmuch as the plate does not go back in the hypo very much. It is well known that a slow emulsion works harder than a quick one, and therefore brilliancy is more easily attainable with an Eastman than a Carbutt, while soft half tones are more easily attained with the quicker emulsions, which must work clear through.

IV. For general artistic work, have your slides of a warm tone; for special subjects black is more acceptable. The color obtained is due to the time of exposure and development.

THE AMERICAN
AMATEUR PHOTOGRAPHER.

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EDITORS:

CATHARINE WEED BARNES. F. C. BEACH.

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EDITORIAL COMMENT.

Geological Photographs.—We understand that Prof. Wm. M. Davis, of Harvard College, of Massachusetts, desires to add to his collection of photographs illustrating the physical geography and geology of this country. Either prints or lantern slides are acceptable, and Professor Davis pays postage both ways on such pictures as are sent him for examination if they are mailed according to his instructions. Views are desired of remarkable mountain scenery, rivers, harbors, mills, industrial establishments, associated with local topography, rock structures, ice-jams and meteorological incidents. This seems to offer a good opportunity for some of our landscape workers, and we therefore call their attention to it.

Photographing at the World's Fair.—Our Mr. Beach, in the capacity of Corresponding Secretary of the Society of Amateur Photographers of New York, addressed a note last month to Director-General George R. Davis, of the World's Fair, with a view of ascertaining what rules had been made concerning the right to photograph objects of interest at the Fair. A reply just received states that all concessions and privileges must be obtained from the "Ways and Means Committee" office in the Rand & McNally Building, Chicago, who furnish blank forms to be filled out. These forms were inclosed with General Davis's letter, and simply provide for the description of any business to be carried on in the Fair Grounds, such as the sale of photographs, guide-books, newspapers, etc., and a bond guaranteeing the financial responsibility of the applicant. Nothing is said about the granting of permits to photograph under an agreement not to sell. This appears to be a branch not yet fully considered. Mr. Beach is now in correspondence with the Ways and Means Committee to ascertain what is likely to be done for amateurs. It seems to us, if no exclusive privilege to photograph is to be granted, a registration of all applicants and the quick issuing of permits would accomplish all that is necessary. Members of photographic clubs could also be recognized on presentation of their membership ticket duly signed and countersigned by their president and secretary. We hope the privilege of photographing will not be hindered by an undue amount of red tape.

Concerning the Lantern-Slide Interchange.—In our contemporary, *The Beacon*, for January, appears an interesting criticism on the above-named interchange, in which the objects for which it was created are set forth by asking a series of questions. It says: "Is it intended mainly to give various clubs of which it is composed and their friends an opportunity of spending a series of pleasant evenings with the lantern?" We reply, in the affirmative, *that* is the main purpose of the interchange, to provide a pleasant entertainment for the clubs, by placing before them pictures of artistic excellence and historical, scientific and technical interest. By improved methods the making of dry-plate lantern slides is a comparatively easy matter, so that the technical quality, which by perseverance may be readily mastered, is of not so much account as the need of education in properly matting the picture to produce the most artistic effect. The Executive Committee has pursued the course of selecting the most artistic subjects where possible, including besides slides of especial and novel interest with a view of introducing into an exhibition as much variety as possible.

The Bausch and Lomb Contest.—It was our lot to be appointed as one of the judges in this contest (particulars of which we gave some months ago), and we performed our duty with three other gentlemen, at Rochester on December 29th and 30th, we hope, with satisfaction to all. Of the five judges appointed four presented themselves: Mr. F. C. Beach, of New York, Prof. Randall Spaulding, of Montclair, N. J., Dr. John Nicol, of Chicago, Ill., and Dr. G. Hunter Bartlett, of Buffalo, N. Y. Mr. H. N. Sweet, of Boston, the other judge, was unable to attend. Forty-four societies and clubs had entered the contest; but only thirty-seven sent the negatives in in time to be judged. These thirty-seven sent in all 883 negatives, which were each first critically examined separately by each of the four judges and judged technically and especially for instantaneous quality with regard to objects in motion. In about 16 hours' time each judge marked on a separate slip opposite the number of each negative a value, according as he estimated it from 1 up to 10, the latter being regarded as perfection. Each lot of negatives from a club was designated by a letter, leaving the judges in ignorance as to the name of the club. The four slips were then compared, and the highest numbers upon which three of the four judges agreed were selected and set one side. After much tedious work this resulted in culling out from the 883 negatives all but 225; from these fifty still better negatives were selected, and lastly from the fifty, four of the choicest negatives were selected by a system of averages of the estimates of each of the four judges, and to the makers of these, the awards were made as announced on another page. The judges were required to determine also which club had the best general average of work; this was done by adding together the ratings of each of the judges separately on each of the four lots of negatives from which the single awards had been made, and giving the award to the club showing the highest number. The result between two clubs was so close that one only exceeded the other by a mere fraction. Many excellent negatives were thrown out because of not conforming to the requirements. It was the opinion of the Optical Company, that the judgment of amateurs as to the value of lenses is decidedly variable; that much depends on the manipulation and other circumstances. No special claim is made for the rapidity of the shutter, but examples were sent showing railroad trains in motion distinct and clear, and very creditable horse-racing pictures; in each case, it was said the shutter was accelerated by means of a rubber band. Judging from the color of the negatives, the Eiko or Hydroquinone developer appeared to be the favorite.

A curious mistake was made by the Optical Company in announcing the name of the party entitled to the first prize. They had attached the wrong letter to the club in which lot the successful negative was found, and, after the judging had been completed, announced to the judges (who previous to this had only known the respective lots by letters) the successful competitor as being Mr. G. Knight White, of the Pacific Coast Amateur Photographic Association. We think they even went so far as to send him a check for the amount before the mistake was discovered. It has, however, been straightened out, and the successful competitor, S. Tudor Strang, rewarded. The judges wish it distinctly made known that they were not in any way responsible for the error. Altogether the contest has been most instructive and useful in stirring up interest in instantaneous photography.

Packing Lantern Slides for Shipment.—The method adopted by the American Lantern-Slide Interchange of packing slides in boxes lined with rubber-grooved strips has proved so effective, in regard to safety and compactness, that it has been copied by our foreign contemporary, *Photog-*

raphy, in shipping to this country its "1890 Set of Prize Slides." But the slides were bound with Hughes paper copper binding; and the sulphur in the rubber, combining with the copper where the latter came in contact with the rubber, formed a very fine black smut (probably sulphide of copper), which easily rubbed off upon the fingers, blacking them and otherwise getting on to the glass of the slide—a most disagreeable experience for any one wishing to handle a lot of slides. The copper had been put on to protect the slide, but, with a rubber cushion for packing, there was no need of the metal protector. The metal, too, makes the slides clumsy and bulky to handle, and while it looks feasible is not on the whole as satisfactory as paper binding.

The manager of the interchange stripped the copper from the slides and rebound them with paper. Our English friends are to be congratulated in accepting the latest ideas on the packing of slides.

The Maddox Fund.—We are pleased to note that our appeal for contributions to this most worthy fund has not been in vain. We have to acknowledge the receipt of $5 from Mr. C. H. Crosby, of Chicago, Ill., also $5 from Miss Catherine Weed Barnes, editor of THE AMERICAN AMATEUR PHOTOGRAPHER. We learn from our English contemporary, *Photography,* that the fund is increasing satisfactorily in England.

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A CORRECTION.

Our esteemed English contemporary, *Photography,* in its issue of January 28th, labors under a misapprehension in supposing that by our recent arrangement with the *Outing* Company we merge our individuality as a separate magazine. It is simply a division of responsibility, we retaining our magazine name and editorial management, and they having control of the business department. The *Outing* Company have recognized the importance of amateur photography in thus joining their interests with ours and will lend us aid and comfort, but our connection with them is rather a partnership than an "amalgamation." Our Miss Barnes is to edit a "Woman's Department" on *Outing* itself, and she with Mr. F. C. Beach remain by contract editors of the AMERICAN AMATEUR PHOTOGRAPHER, Rev. W. H. Burbank retiring from the staff. We feel this explanation is due our English readers, and we assure them the magazine in future will be more help than ever before, as relieved of business cares, the editors can give their entire attention to increasing its value as a practical exemplar of amateur photography.

PHOTOGRAPHS RECEIVED.

Thomas J. Cockrell, Laredo, Texas, sends a dozen 5x8 very interesting Mexican and Texas photographs for criticism and comparison, he doing work mostly for railway and news companies. In general, the pictures show careful work; they are very clear and crisp. A few instantaneous ones, we think, might have been developed a trifle further. He has a very large collection of negatives of that region. He states that he will be at "The Hot Springs" after March 1st. He is provided with a railroad car especially fitted up for view-work.

We have also to acknowledge prints from Charles Furneaux, of Hilo, Hawaii, which exhibit scenes of life in those islands. They will be a welcome addition to our office album. It would be interesting to know what plate was used, as it would seem to have been a trifle too rapid to bring out the finer details of exuberant southern foliage. We shall hope to hear further from our far-off correspondent. Perhaps the finest work we have lately received is from W. G. Stuber, Louisville, Kentucky, illustrating the use of his new tin plate and its freedom from halation. This claim seems to be justified from the fact of one print being from an exposure made directly facing the sun and showing no halation whatever. The pictures are beautiful examples of technical and artistic work.

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CORRESPONDENCE.

FRIENDLY WORDS.

To the Editors of the AMERICAN AMATEUR PHOTOGRAPHER:

There is considerable interest being manifested in this locality concerning Amateur Photography. My aim is to give you all support possible.

There is one fact fully established in my mind—that no person at all interested in the art can afford to be without the AMERICAN AMATEUR PHOTOGRAPHER. Should difficulties arise in the manipulation of the different processes, or should he be ambitious to advance in the art, by a study of this magazine he can always find exactly what he wants for his particular case, so written and described that a novice can easily grasp it. A case to the point occurred with me a short time ago. I desired very much to possess a copying and enlarging or reducing camera. I looked over the various catalogues, and I found that to secure such an instrument as I desired would cost ninety dollars. This being too expensive, I turned to my own resources; having served my early boyhood at the cabinet-work, I had no doubt of my ability to master the wood-work, but the bellows was what knocked me out for a time. Just when I was in my perplexity the postman dropped the AMERICAN AMATEUR PHOTOGRAPHER in our door, and almost the first thing that stared me in the face was, "How to Make a Bellows." I jumped to my feet, saying: "I've got it! I've got it!" My wife looked at me and said: "Well, I guess you have. Are you crazy?" The result was I set to work by following the instructions so clearly laid down that, as an experiment, I made a fairly good bellows wholly out of paper. After this was completed, and having mastered the different parts, I purchased rubber cloth and other things necessary to make the "positive" bellows, and succeeded in making a first-class article, after which I set to work and completed the wood and brass-work, and to-day I have a $90-camera at a cost to me of $12.50, and which for finish and convenience is admired by all, as I have many applications for the loan of it from many of the professionals in this city.

So I say success to the AMATEUR PHOTOGRAPHER, and why not?

JOHN G. PROCTOR, Architect,
600½ Washington Building,
Tacoma, Washington State.

Editors of the Amateur American Photographer:

Permit me to compliment you on the choice of so admirable a picture as "The Village Cobbler," in illustrating the January number. The same subject appeared in a recent issue of a New York periodical, but was not nearly so advantageously reproduced as in your publication, where a certain portion of the picture (the right-hand margin) was eliminated, thus very materially enhancing its artistic value. I admire your excellent judgment in selecting for examples, to be emulated by your readers, pictures that shall possess a marked artistic value, and without regard to what lens, camera, or plate were employed in their production. There are but few periodicals published in this country which can boast of the independent spirit and honest desire to improve the artistic standard in photography, as shown by the editors of THE AMERICAN AMATEUR PHOTOGRAPHER. Amateurs are beginning to realize that they can obtain the most practical benefit from sources which are perfectly independent, unbiased, sincere and trustworthy, and thoroughly and correctly informed on all photographic matters. I have but one suggestion to offer, viz.: Would it not increase the value of your illustrations were you to explain how they are composed or arranged, and to print the several important features that unite in rendering them practical works of art in photography? There is so much to take into account when composing a picture—chiaroscuro, arrangement, balance, taste, etc., that a lucid explanation of the *modus operandi* of Mr. Nelson, for instance, would be of immense help to many amateurs ambitious to do as well.

Respectfully yours,

Boston, January 10, 1892. WILFRED A. FRENCH.

AN OPEN FIELD.

A long time ago, I tried a few snap-shots with the kodak (No. 1) on my chickens. Most of them turned out badly. It was in the early days of my struggles with stripping films which would not strip, but I got enough to show me that here was a good lead to follow up. Not long since I was examining some small oil paintings, not more than 6x8 or 9 inches, of poultry, made in Munich and imported at great cost by an enthusiastic connoisseur. They put me in mind of the compositions I had nearly secured with my kodak.

I have never seen many good photos of barnyard life, and I believe that here is an open field for the production of some real gems of quick shutter-work. With a goodly supply of patience (greatly assisted by an occasional handful of corn), one can secure compositions illustrating every phase of chicken-life, and many of them very amusing ones. The ducks, turkeys, guinea fowls, geese, and pigs, great and small, will all assist in forming amusing *genre* pictures. This can be done in winter as well, or better than in summer.

ROGER CUNNINGHAM.

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OBITUARY.

The death of Mr. Willard H. Fuller, of the Scovill & Adams Company, who in his short life left a record of duty fulfilled such as a man might well desire to leave behind him, affects others beside his family and immediate business associates. Everyone who had anything to do with him could not fail to appreciate his true manliness and considerate courtesy. No matter how hurried he might be, all visitors received a cordial welcome, and those who contributed to the *Times Annual* which he aided so largely in making a success, have only pleasant memories of their relations with him. Prompt, energetic and industrious, thoughtful and faithful, he will long be missed among those brought in contact with him. Clear-headed and strictly just, his was a character singularly qualified to win men's thorough respect. The editors of THE AMERICAN AMATEUR PHOTOGRAPHER desire to add their share to the numerous tributes of honor being paid to his memory, and testify their sympathy with his family in the heavy loss of husband and father.

SOCIETY NEWS.

[Under this head we propose to publish all society matters of scientific or technical value, which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 20th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

THE PHOTOGRAPHIC CLUB OF BALTIMORE CITY.—During the month of December the club had two exhibitions, to which members invited their friends, besides the usual club nights (every Tuesday), during which evening it is our custom to meet socially for work, talk, etc. On December 8th we had an exhibition of slides of the Boston Camera Club, illustrating White Mountain scenery. These were enjoyed by ourselves and invited friends, as was also a repast we had directly after the exhibition. On New Year's eve we had an exhibition of the slides from the "American Interchange" of the Photographic Society of Philadelphia and the Joliet Camera Club. On this evening we issued invitations to our friends to view the pictures and watch the "old year out and the new in." The slides were particularly fine, especially those of the Philadelphia society, which elicited much applause generally. The work and choice of subjects of the Joliet club was very interesting, and gave an idea to many what the life is of those unfortunate people who spend much of the allotted time of their lives behind prison walls.

After the exhibition of slides we and our guests retired to our supper-room, where a collation, served by the efforts of our house committee, but especially that of one of our most ardent workers, Mr. Charles Quartley, whose labor was rewarded when he looked upon the manifestation of good-fellowship and gastronomic enjoyment, aided by that drawn from wood and served in stone. After spending possibly an hour in this manner, all adjourned to the adjoining room, where, with the aid of music, hot-scotch, pipes, tobacco and mirth, the passing hour was watched. Messrs. Godby, West and McFarland helped to pass away the time by recitations and imitations of prominent actors and persons, and Dr. Hopkinson gave us some vocal music, aided at the piano by Mr. Enoch M. Barker. As the old year passed away the company sang "Auld Lang Syne," and not long after we dispersed with the full satisfaction that everybody had enjoyed the evening. On January 5th we held our regular club meeting, when a routine of business was gone through with, and after which Mr. John H. Trimble made a demonstration of bromide enlargements.

On January 6th we held a slide exhibition of those of the Society of Amateur Photographers of New York. The meeting was well attended by the members and their lady friends, and the pictures much enjoyed and appreciated. Those deserving of particular mention were: "The Barge Office," "A Flock of Sparrows," "High Bridge," "Wysteria Bridge," "An Out-of-door Portrait," by Mr. Van Brunt; "Going for Beer," by Mr. Tieman; "A Ride in a Street Car," "Cinderella," "By the River Side," by Miss Catherine Weed Barnes; "The Old Dam," "All the Comforts of Home," "The Maine Coast," "Glimpse Aloft," by Mr. F. Ruppert; "San Pedro Park," "Dingmans' Ferry," "Surf at Monterey," by Mr. Post; "Herd of Reindeer," and the Norwegian pictures, by Miss Elizabeth Almy Slade. Those mentioned received much applause and commendation.

The attendance at our weekly Tuesday night meetings is large, and all indicate interest in the work as well as the social nature of arrangements there. On last Saturday night, January 30th, the monthly meeting of the directors was held; eleven new members were added to our list. The statement of our treasurer was read, and indicated that although we have been put to a very considerable expense in the way of furnishing our rooms, purchasing such apparatus as we now have, our finances indicate a very fine condition. Mr. F. M. Clotworthy resigned from chairmanship of the lantern committee, and Mr. A. S. Murray was appointed in his place.

A. S. MURRAY, *Corresponding Secretary.*

THE SOCIETY OF AMATEUR PHOTOGRAPHER'S OF NEW YORK.—*Smoking Concert, Saturday Evening, January 9th, 1892.*—It was fully attended and more elaborate than any heretofore held; a stage was erected at the rear end of the room, specially lighted by additional electric lamps; the musicians, actors, singers and legerdemain performers were thus seen and heard to the best advantage. A few lantern-slides were shown interspersed between the music. Terhune catered in a satisfactory manner. Altogether it was a very enjoyable affair. Mr. T. J. Burton was the manager.

Regular Meeting, Tuesday Evening, January 12th.—It was called to order at 8:15, President James H. Stebbins in the chair. "Toning of Lantern Slides" was the subject of a paper presented by Mr. Alfred Stieglitz, read and explained by Mr. Wm. M. Murray. The substance of the paper was given in the January number of the AMERICAN AMATEUR PHOTOGRAPHER. Mr. Stieglitz employs three solutions: nitrate of uranium, ferrocyanide of potassium, and ferric chloride, and after development and fixing varies the tones by dipping the slide into the different solutions for a brief period. If a slide is too dense after such treatment, it may be reduced by immersion for a few moments in a very weak solution of cyanide of potassium. When the latter chemical was mentioned its dangerous nature, as a deadly poison, was described by the President. He had known of a case where a photographer getting a little of the cyanide under his finger-nail attempted to nullify its effect by applying acetic acid. This, he stated, was the worst thing that could have been done, as a very serious chemical action was set up. In two hours the photographer died in great agony. He advised all to use it very carefully, and to have as little to do with it as possible.

The President exhibited a new Eastman cheap Kodak camera, and illustrated the simplicity of the mechanism by sliding the film in place edgewise, when attached to the supply and winding-up spools. He explained the new locking device attached to the winding-shaft, whereby the latter is automatically stopped from rotating when the length of a picture has been wound off. The same movement operates a numbered dial which indicates the number of the exposure that has been made. A new and simple shutter is also provided. The outer box is made of polished wood and presents a neat appearance. Mr. F. C. Beach showed a smaller Kodak camera loaned by Mr. Wattles of Union square, New York, which was similar in construction, but had the supply and winding spools inclosed in rectangular cardboard boxes, the paper passing through a slit lengthwise in one corner. It was called the daylight camera, because it can be loaded without the use of a dark room.

On each end of the roll of sensitive film is a length of black paper about a foot long. In loading, the black paper is drawn through the slit of the spool-holding box and secured to the winding spool in the opposite box, then both boxes with the strip of black paper between them are dropped edgewise into the compartments at the rear of the camera; the cover put on, and the winding reel rotated a certain number of times until the protecting black paper is wound off and the sensitive film is brought into place. When the twenty-four exposures have been made, the black paper secured to the inner end of the film is wound around the exposed film by a continuous rotation of the winding reel until the whole of the paper is wound off. The box of exposed film may then be removed in daylight with safety and a fresh film inserted. Much of the mechanism in the old roll-holders are absent in the new Kodaks and will greatly enhance their value as instruments for using sensitive films. The daylight feature is likely to prove a popular one, while the compactness of the camera and its moderate price will largely commend it to the public.

Mr. Beach also showed a simple, ingenious and compact stereoscopic hand camera, invented by Mr. R. D. Gray. It carried three double plate-holders and ground glass permitting the camera to be used on a tripod. A simple horizontally sliding-shutter is employed, readily controlled for time or instantaneous exposure by simply moving the release trigger at the top of the camera either to the left or right. A distance scale and finder are provided, and a rack-and-pinion shaft at the bottom regulates the focusing.

There is also means for raising the front and for obtaining a swing-back movement when desired. The camera is neatly covered with black leather and as compared with the old-fashioned stereo cameras weighs half as much.

After the exhibition of apparatus in executive session the reports of the smoking-concert committee, the American Institute Exhibition Committee, and the Committee, of Arrangements on the Fourth Annual Joint Exhibition were presented. So far as the finances are concerned the smoking-concert committee made the best showing, the American Institute Committee had a slight deficiency, made up by subscriptions, and had sold between three and four thousand catalogues; the committee of arrangements had a written report, treating of the origin of the exhibition, the changes made in the exhibition rules, the statistics of the exhibition, what was said of it by the press and of its financial aspects. It was shown it was twice the size of the 1887 exhibition in extent of exhibits and in receipts, but had not been supported as liberally financially as that exhibition. The receipts were about $1,700, and expenses something over $2,100, making a net loss of about $425. The exhibition lasted for three weeks, from May 25, to June 13, 1891. It contained the largest display of foreign work of any previous exhibitions and excellent examples of home work, and was the first of the series to award silver medals in place of diplomas. At the request of a member the report of the treasurer up to July 1, 1891, giving in detail the cost of moving from 122 West 36th street to 12 West 31st street, and thence to the present quarters was read, which showed a grand total of $2,400; his quarterly report on January 1, 1892, made a favorable showing for the society as regards increase of membership and increased receipts from additional lockers. The facilities afforded have been greatly appreciated by other organizations as many have taken this society's dark room as a model in fitting up their quarters, notably the "Photographic Society of Philadelphia." It was stated a special committee consisting of some of the officers had been appointed to secure the extension of the lease of the present quarters for another term of two years.

Mr. F. C. Beach was re-elected to represent the society as a director in the American Lantern Slide Interchange for the year 1892. He called the attention of the society to the circular sent out by the Boston Camera Club in regard to the Fifth Annual Joint Exhibition to be held at Boston in May, and suggested that a special committee be appointed to co-operate and solicit exhibits.

The suggestion seemed to create quite a stir among a few members who manifested a decided opposition to all of these exhibitions, but wiser counsels, however, prevented any precipitate action. It was clearly stated, whether or no a committee was appointed, that any member had the privilege of sending exhibits to Boston if desired and would not be charged for wall space. There was no responsibility attached to the society as a whole until its turn came in 1894 to hold a general exhibition.

Mr. Beach read a circular letter on the proposed prizes to be awarded for photographs of bad roads by the U. S. Wheelman's League. About 10:30 the meeting adjourned.

Wednesday Evening, January 20th—Special Exhibition of Lantern Slides.—The second of the special exhibitions given this season was most successful, and comprised the excellent work of Mr. Alfred Stieglitz, who has risen highest among the members of the Society for his conscientious and artistic abilities as a photographer. Probably no member has taken more medals at photographic exhibitions than he. A large audience filled the hall; Mr. Wm. M. Murray efficiently officiated at the screen in describing the pictures and how many of them were made, while Mr. F. C. Beach and Mr. A. P. Shoen attended to the lantern. Gas was supplied to the latter from new steel cylinders made after the Brin patent, compressed to 1800 lbs. to the square inch, occupying about one-quarter of the space usually taken up; a set of Beard pressure regulators attached produced a uniform steady flow, and the whole worked very satisfactorily. Mr. Murray stated that Mr. Stieglitz had only begun lantern-slide making about five or six weeks ago, but by working steadily at it had been successful in making the collection to be shown.

It was varied in character and covered several remarkably good views in the Alps, out-door statuary in Berlin and Munich, studies of cattle, two or three pretty views in Central Park, a number of figure studies and compositions not taken in a studio; views at Biarritz on the coast of France, very clear and interesting; some beautiful snow pictures in the Berlin Park; Lion's Bridge in Berlin, full of exquisite detail; a full-length picture of a "Young Goth," very expressive and clear; "Card Players" on a porch, Munich, quite a striking picture; "A Bit of Mittenwald," very rugged scenery; another of same, after the rain, was full of artistic quality. Several excellent views around "Lake George, New York," including some peculiar moonlight effects, made by toning the slides a greenish blue. Three or four beautifully clear slides of a street in Sterzing (in the Tyrol, a very old village). Also some attractive views in Venice.

His exhibition concluded with slides of pictures taking prizes at different places. All were beautiful in quality. "Cortina" (Ampezzo Valley), very clear (secured medal for excellence at the American Institute Exhibition last fall); "Before the Smithy's" (accepted in Vienna Salon); "Meditation," taken in Munich (silver medal at London); "An Unwilling Bath" (Lake Como) received a prize in *Frank Leslie's* contest; "Leone," at Bellagio, Italy, on week days (silver medal at London); "Washerwomen at Lake Como" (silver medal at Vienna); "The Wetterhorn" (Grundelwald), gold medal at Buda-Pest; Mürren at 5 A. M. (Lauterbrunner), first prize at Frankfort-on-the-Main; the "Eiger After a Storm" (Grundelwald), on a very artistic mountain landscape, received a silver medal at London. The whole set above was awarded a medal at London.

Portrait of Professor Vogel (Berlin) (silver medal at Fourth Annual Joint Exhibition, New York, 1891, also first prize in Royton, England; "A Good Joke" (silver medal at London, awarded by Dr. P. H. Emerson, the head of the naturalistic school, also a silver medal at Berlin, and the Steinheil Honorary Prize). It was a very interesting picture—several children, mostly girls, being carelessly grouped about a street fountain or basin, all smiling about the joke. "Young America," taken at Lake George (Bronze medal, England), a very good portrait. The following set received a silver medal at London; other special awards will be noted: "Venezia" (Venice); "The Wanderer's Return" (Venice); "Marnia" (portrait, Venice) also received silver medal in Vienna, 1888, and accepted at Vienna Salon in 1891; "A Nook in Pallanga," "Lago di Maggiore" also took medal in Coventry, England; "Street in Bellagio." The last prize picture shown, and which concluded the exhibition, was the "Grand Prize Set,' taking a gold medal valued at £30 in London, as follows: "Prayer," photographed in Vienna, showing a young girl at a street stand in the attitude of prayer, with clasped hands, partly kneeling. "Cabbage Girl," taken in Vienna, graceful outline of pose of figure; "At the Well," same place. "November Days" (Munich, illustrated in the December, '91, number of THE AMERICAN AMATEUR PHOTOGRAPHER), also took a silver medal at

Nottingham, England. "Little Innocence," taken in Vienna, also accepted in the Vienna Salon; "Stones of Venice" (Chioggia, Italy) also accepted in the Vienna Salon; "At the Brook" (Vienna); "Weary" (a girl in the field resting with her head on a bundle of sticks); lastly, a "Viennese Peasant Girl." The variety of work thus displayed fully bore out the capabilities of Mr. Stieglitz as an artist photographer, combined with excellent technical skill. The exhibition was most enjoyable all the way through, and also very instructive, since it showed conclusively the value of dry plates in producing very satisfactory slides. Mr. Stieglitz believes in giving a liberal exposure both for negatives and slides, and in controlling the development by using solutions very dilute and weak in alkali. He was congratulated on all sides on his success, and will probably continue slide-making, to the edification of his fellow-members.

Friday Evening, January 29th—Regular Exhibition of Lantern-Slides, Comprising the Slides of the Syracuse and Albany Camera Clubs.—These two sets of slides contributed to the Lantern-Slide Interchange were shown at the rooms of the Society of Amateur Photographers of New York on the above date, and comprised also a few by the Home Society. Of the fifty submitted by the Syracuse Club the best were "Fleur de Lis," "Road near Homer, N. Y." and "Nightblooming Cereus," by R. W. Bellhouse. Mr. J. B. Clancy had two good slides, "The Amateur at Work," and "Feeding His Flock." Dr. G. P. Clark one humorous slide, "Catnip Tea," a cat trespassing on the tea-table, and "Mill-Pond, Amboy, N. Y.," a beautiful composition. E. A. Hudson's "A Snowy Morning in '90" was one of those effective bits of nature which do sometimes come to the amateur in winter. "Chittenango Creek," by I. A. Savage, was a good study, as was the "Mill-Pond, Onondaga Valley," "Looking Seaward," and "One of the By-Ways of Onondaga," by W. H. Olmsted. "The Erie Canal at Syracuse," by Amos Padgham, "Down Mt. Washington" and "Holston River, Va.," by J. D. Pennock were especially noteworthy examples of careful work. "Ausable Chasm," by George Root, was exceedingly clear with good detail and also atmospheric effect. Mr. S. W. Rose's "Oat Field: An Old-Timer," was a capital character-study, and "He's All Right," a good bird picture. John Winter had some excellent foreign views and George Timmin's "Apollo at the Bath" showed the interior of a developing room. The slides as a whole were excellent and showed that the Society has excellent material to work with. They might profitably adopt the suggestion in a recent number of the New York *Recorder* to collect a series of views illustrative of local industries. Syracuse offers some exceedingly good opportunities in this direction. The slides were mostly on Eastman plates, developed with iron and a few with pyro. Of the Albany set of slides among the best were "Rifle Practice in the Adirondacks," and "Winter Study of a Tree," by Dr. S. B. Ward, the latter an exquisite picture. Mr. W. W. Byington had "Winter Scene, Albany," and "Lake of the Thousand Islands," which received appreciative notice; and Mr. J. S. Van Buren had "Hudson River below Thurman," and "Giant Spring, Glens Falls, N. Y." which, while good, would have been greatly improved by being matted down more closely. His "Over-loaded," a snow-covered tree, was better. Mr. M. H. Rochester had four excellent slides, especially good being "Fork on Shawnee Run, Kentucky." Mr. T. S. Wiles' surf views were unusually good, as was "Cloud Effect, Lake George," by C. S. Pease. "A View in Elizabethtown," by C. L. Palmer, gave a good idea of the photographic possibilities in the Adirondack region, and Almon Holland's "U. S. Revenue Steamer Rush" was a well-taken photograph, though it would have appeared to more advantage if smaller on the plate. Mr. E. C. Fasoldt had a snow scene, which was effectively composed, and James H. Manning had three slides, the best of which was "Night Approacheth." "Up the Indian Ladder Road" was a little too black and white; overtiming and slow development would have brought out better half tones. The Albany slides were the first the Society has sent to the Lantern-Slide Interchange and showed creditable promise. They have an evident partiality for hydro-chinon as a developer, but the tone of the slides would have been improved by the addition of a good proportion of eikonogen. The club is to be congratulated on its satisfactory beginning. The exhibition closed with a few slides by Mr. D. K. Young, Miss E. V. Clarkson, and Mr. W. B. Post, of the New York Society. Miss Clarkson's best ones were "The Gamesters," and "The Old Oaken Bucket," which were exceedingly well done. Mr. Post has won a fine reputation for slide-work and his average is a high one. All the views chosen were creditable, and it is difficult to particularize. The best of Mr. D. K. Young's slides were "Ferry on the French Broad" and "Top of Natural Bridge, Va."

NEW YORK CAMERA CLUB.—On the evening of January 11th Mr. Daniel K. Young gave an exhibition of lantern slides of rambles among the Appalachian Mountains. The slides were described informally by him, and interested a large audience.

At the annual meeting of the club the following officers were elected: President, David Williams; Vice-President, Samuel W. Bridgham; Treasurer, Robert J. Devlin; Secretary, Harry B. Reid; Trustees, David Williams, William J. Cassard, Samuel J. Bridgham, Harry B. Reid, Franklin Harper, Robert J. Devlin, W. Townsend Colbron, William A. Fraser, and Thomas Manning.

The club adopted a new constitution and by-laws.

Monday Evening, January 25th—Exhibition of Slides.—An exhibition of lantern-slides, the work of members, was given on the above date, which called out a large and interested audience. The screen was not placed directly facing them as is usual, but slightly to one side, in order to face the lantern in the hall, the pictures being thrown on the screen through a doorway—a very ingenious device to keep the lantern out of sight. After the exhibition the audience was invited to inspect the library and work rooms on the floor above. The prevalent epidemic interfered with managing the lantern, and volunteer service had to be called for, which, it should be said, was well rendered. There were about 150 slides shown, differing widely as to subject and treatment, and emphasizing the fact that far greater care is being given to matting than was formerly the case. Several of the slides were from pictures accepted at Vienna—in one case the slide itself; but the makers had other work shown which was in every way fully as good. The members whose slides seemed especially worthy of praise were Mrs. Lounsbery, Miss Stevens, Miss Martin, and Messrs. Frazer, Zabriskie, Harper, Williams, Blyth, Bridgham and Reid. Mr. W. A. Fraser's slides were made from negatives of flower studies on isochromatic plates, and as examples of technical work were exceedingly fine—about the best things shown; but, artistically, it would have been better to have devised a little more variety in arranging the subjects. The best of Mr. C. F. Zabriskie's slides were "Path Around Lake" and "Don't Tumble In." Mr. Franklin Harper had, among his excellent set, "An Open Camp," "The Hurdle Jump," "An Adirondack Guide," and a gem in conception and finish called "Nature's Looking Glass." The "Entrance to the Beguinage at Bruges" of Mr. David Williams was specially good, as was the "Donkey with Milk Cans, Madrid," and the cattle studies of Mr. Bridgham. Mr. H. B. Reid seemed to have extensively explored the region about the Susquehanna River in a series of well-selected views, one of which was shown at Vienna. Of Mr. H. A. Blyth's slides two were altogether the best, "Jack at all Trades" and the example of genuine artistic humor, "All Here but Alexander," a by no means small family group posed by the roadside. Space forbids more extended mention of other creditable work, but it is not possible to overlook that of Mrs. Lounsbery, Miss Stevens and Miss Martin. Mrs. Lounsbery had a number of figure studies well posed and lighted, especially noteworthy being several groups and portraits in costume, which made one wish she would concentrate her attention on such subjects. Miss Stevens's work was mainly foreign views, carefully selected and well made. We understand she has a large and interesting collection of these. Miss Martin's slides were made nearer home, several being of views near Cooperstown, N. Y., and well sustained her reputation for taste and skill. Mr. H. B. Reid, secretary of the club, read the titles and added comments explanatory and humorous. The exhibition would have been more helpful if the work of each member had been grouped together. These exhibitions should be a source of suggestion and practical teaching to those who make slides, and comparison of the work of different makers would be much facilitated if the above suggestion was carried out.

LYNN CAMERA CLUB.—The annual meeting of the club occurred on January 7th, when the following officers were elected for the year 1892: President, W. M. Drew; Vice-President—J. N. Smith; Recording Secretary—J. W. Gibboney; Corresponding Secretary—W. W. Griffin; Treasurer—E. F. Batcheller; Librarian—J. W. Tapley; Executive Committee for two years—W. B. Gifford; Executive Committee for one year —W. A. Pevear.

George H. Breed and Frank W. Kimball were elected active members of the club. It was announced that a series of interesting exhibitions of lantern-slides would be given, beginning with a set of slides from the Mystic Camera Club. There will also be given a number of demonstrations in photographic processes and operations for the benefit of the club members. The course of demonstrations will include instruction in the development of photographic negatives using developers of different characteristics and properties, such as pyrogaloll, hydrochinon, eikonogen, proto-sulphate of iron, and other developers, the proper treatment of negatives in the fixing and clearing baths, development of instantaneous exposures, development of films, etc., prevention of frilling, orthochromatic photography, etc. It will include instruction in various printing processes, some of which are not understood by amateurs. Aristotypes, silver printing, bromides, platinotypes, blue-prints, etc., will be touched upon and the peculiar advantages of each of these processes for certain characters of work will be brought out, and the way will be pointed out to overcome the difficulties usually met with in practicing these processes. If time admits there will also be practical demonstrations of dry-plate making for amateurs.

The club has recently furnished a billiard table in an additional room for the amusement and pleasure of its members.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting of the Society was held Wednesday evening, January 13, 1892, Vice-President Joseph H. Burroughs in the chair.

The Board of Directors presented their monthly report, in which they announced the election of Horace Howard Furness, Jr., to active membership.

Progress was reported in the work on the improvements in the meeting and work rooms, and it will be completed in time for the opening reception on January 21st. Attention was called to the Honor Picture Competitive Exhibition, which would open on the evening of the reception, continuing until February 10th. On the evening of February 3d an illustrated lecture would be given by Dr. C. L. Mitchell on "Switzerland—The High Alps."

Mr. F. E. Ives exhibited one of his cameras for composite heliochromy. With a lantern objective having only one (large) aperture, this camera produces three sharp images exactly alike as to size and perspective and on one plane. Mr. Ives stated that such a camera would prove to be a practical necessity for composite heliochromy, and he regarded it as an optical triumph.

The subject announced for discussion, viz., "The Permanency of the Undeveloped Image on Dry Plates—What Conditions Influence it?" was next taken up.

Mr. Pancoast stated that some time ago he purchased three dozen plates of a well-known make. He used one dozen with excellent results at the time of purchase; the rest he laid aside, and did not use them until May, 1891, when he exposed four and found them all right. On May 16th he exposed six more on landscapes and interiors, giving rather full exposures. These were kept in the holders until August 12th, then transferred to a box containing old-style separators and put away in a dry place, standing on edge. A week ago Mr. Pancoast commenced development. On placing a fully exposed landscape in pyro and potash developer no trace of image appeared. A second plate treated to a dilute alkali bath previous to the pyro, then subjected to a prolonged and forced development, produced no better result. A third plate, landscape, hydroquinone developer, still no result. A fourth plate was next tried in a mixed eikonogen and hydroquinone developer, and, strange to say, a very fair negative was the result. He then tried some of the unexposed plates on neighboring houses, producing good negatives. A plate of another man, purchased in 1889 and packed with the others, subject to the same conditions, on development with hydroquinone resulted in a good negative.

In reply to questions, Mr. Pancoast said the temperature for all was the same —about 60°. He still had one plate as yet undeveloped. They were glass plates.

Dr. Mitchell said it was generally recognized that eikonogen would bring out details that pyro would not. He had several times used pyro on much underexposed plates, and notwithstanding the use of a large quantity of alkali he got hardly any image. He remembered one or two cases where, noticing fog on the edges of the plate, he had poured the developer off, washed the plate and put it in eikonogen developer, the result being an almost instantaneous flashing up of the image—so quickly, in fact, as to give one the impression of an over-exposed plate. While he could not explain or give any good reason why Mr. Pancoast's plates did not come up properly, he thought there was no question that eikonogen would often bring out an image that pyro would utterly fail to produce at all.

Mr. Earle stated that he had tried similar experiments in this direction. He had purposely carried exposed plates in the holders for six months and more, and on development with the eikonogen had obtained as good negatives as he ever did. The developer was eikonogen—not hydroquinone and eikonogen—from which he judged that in the mixed developer it was the eikonogen that was the more active agent.

Mr. Carbutt said that his experience had been quite contrary to Mr. Pancoast's. He had made several hundred exposures in Europe in 1890, and they were not yet all developed. He had developed from time to time and had found no decrease in the image—if anything, rather an increase. Last week he developed two packages that had been exposed in 1890, and they had attained such an extreme rapidity that it took a very acid ferrous-oxalate to get any decent image at all. With the ordinary eikonogen and hydroquinone developer they were entirely beyond control.

Mr. Pancoast thought the trouble lay in the material of which the plates were composed. In plates of some makes the emulsion was not permanent.

Mr. Bell added his testimony in regard to the pyro and a mixed eikonogen and hydroquinone developer. Several times, in using pyro, he had failed to get any good results, but in changing immediately to the mixed developer he had obtained a beautiful image.

Dr. Mitchell said that eikonogen, under certain aspects, was next to the new paramidophenol, a very energetic developer. It seemed to go to a certain point, however, and then stop, so that while one got a great deal of detail in the image, the required density would have to be obtained from hydroquinone. A combination of eikonogen and hydroquinone was very like a partnership between two good fellows. There was one fault which he believed existed in all gelatine dry plates, and which increased with the rapidity of the emulsion, and that lay in the boiling of the emulsion. In this boiling the silver reaches a state of strain, so to speak. The particles of silver, being in a state of molecular separation, seem to be hanging at a point where there is a certain amount of tension. Now some unknown circumstance—it may be the character of the weather, the temperature, or the condition of moisture in the atmosphere at the time the emulsion is made—serves to start a disruption, gradually at first, but increasing, so that after awhile the emulsion becomes utterly insensitive. Then again it may be influenced by the action of the light in making the exposure. The impression of the light on the sensitive surface may be just enough to start molecular disruption, which increases in a few weeks, utterly changing the character of the plate and preventing any image being brought out. Two or three summers ago a former member of the Society made an excursion to the Adirondacks, taking with him quite a large number of plates. They were a new lot, just from the factory, and he omitted to test them before he went away. However, he made a number of exposures, and when he came back started in to develop. He failed utterly in getting an image; the whole lot were bad.

Mr. Bell asked Mr. Carbutt if he knew whether manufacturers to-day used any tannin at all in making the emulsion.

Mr. Carbutt could only answer for himself. He did not use any.

Mr. Chapman had been troubled with the film negatives darkening from the edge inward when kept several months after exposure, the trouble increasing with the length of time they were kept until, in some cases, it covered the film entirely.

Mr. Wilson suggested soda in the packing or separating paper as the cause.

Mr. Carbutt recommended packing in waxed paper as a preventive of fogging from the edges.

Mr. Brown favored the old-time method of packing plates tightly together with a piece of orange post-office paper between each pair. Plates packed in that way, very tightly wrapped together, he had kept for four or five years, and they were as good at the end of that time as when he bought them. The present method of separating plates permits the circulation of air between them, carrying with it gases and impurities which would tend to injure the plates and bring about the blackened edges spoken of by Mr. Chapman, extending finally to the centre of the plate. Some time ago he placed some plates that were working admirably into his plate-holders, where they remained over two months. When exposed and developed he found this blackening upon the edges. Curiosity prompted the trial of some of the plates he had kept in a tin box in the same paper packages in which they had been received. Result: no blackening. In the former case the plates in the holders were exposed to the air, whereas those in the paper box inclosed in a tin box were kept from contact with the air; none could get in. He would suggest that the makers pack their plates closely together, rather than separate them, as was now done. In his experience those packed tightly did not rub or scratch.

Mr. Wilson mentioned a case where he had left a plate in the holder for awhile, and on development found the word "exposed" printed across the negative.

Dr. Mitchell suggested that, in making his exposure, he must have held the slide in the sun, and the painted letters, absorbing a certain portion of the light, made an impression on the plate when the slide was returned to the holder.

Mr. Stirling did not see how this could be, as the word "exposed" would be on the outside, unless the slide was put in the wrong way.

Mr. Wood referred to the plates mentioned by him at the last meeting, which had been three weeks in the hypo without changing. A friend of his had had the same experience, and had suggested that plates developed with eikonogen above a certain temperature so tanned the film, or did something to it, that it prevented its clearing at all.

Several lantern slides, made with the new para-amido-phenol developer, were next exhibited by Dr. Mitchell, after which the meeting adjourned.

ROBERT S. REDFIELD, *Secretary.*

Thursday Evening, January 21st —The new larger quarters of the Society, at No. 10 S. Eighteenth Street, were opened on the above-named date, and many guests were present on the occasion. A very commodious meeting room is provided, fitted with conveniences for lantern-slide exhibitions. In this room on one side is located the dark room constructed on the Stall system, now so generally adopted, arranged to accommodate six or more persons at a time. The lights are on the outside. One hundred photographs were hung on the wall, the work of members; it is the Society's annual competition, to last for two or three weeks. During the time it is open, four honor pictures are to be selected by votes.

President John G. Bullock welcomed the guests in an appropriate address and spoke of the work of the Society, alluding to its past excellent record, and of the movement now made to improve and enlarge it, which he expected would be one of the best steps it had yet undertaken. Then followed a lantern-slide entertainment of one hundred slides by members of the Society, which included very choice work, and lastly a sumptuous collation terminated the affair.

Wednesday Evening, January 27th.—At the informal meeting held on this evening the lantern slides of the Syracuse and Albany Camera Club were shown.

BURLINGTON CAMERA AND SKETCH CLUB.—The Club recently held their annual meeting, and elected officers for ensuing year as follows: President, E. L. Parsons; Vice-President, G. H. Washburn; Secretary and Treasurer, G. H. Kriechbaum; Corresponding Secretary, Carl Vogt; Board of Directors, in addition to officers, Miss Anna Lane, W. H. Mauro, Jr., J. W. Augutta.

The President appointed Carl Vogt, W. W. Woollen, and Geo. A. Young as a committee on demonstration.

It was decided to give a lantern slide entertainment and exhibition of members' work, in the Club rooms, and a committee was appointed to make the necessary arrangements.

G. H. KRIECHBAUM, *Secretary.*

CALIFORNIA CAMERA CLUB.—The California Camera Club held an interesting and instructive session January 5th. The first and preliminary one of a series of lectures on art was delivered by O. V. Lange, who handled his subject of "Lines, Masses, and Composition" to the satisfaction of his hearers. Each argument and explanation of the lecturer was admirably illustrated.

After the lecture an exhibition of slides by the Photographic Society of Waterbury was given. It is the first set displayed by the plan of interchange, in which twenty-one sets are in circulation.

The club's prize of a lens and shutter for the best negative was won by A. G. McFarland, his negative being entitled, "Hurry, I'm Waiting." The Secretary, T. P. Andrews, announced that forty members of the defunct Pacific Coast Amateur Photographers' Association had joined the club. He also declared that the rooms of the club will be open for three weeks for public inspection and an exhibition of the prize prints of the recent contest.—*San Francisco Chronicle.*

January 26th.—The club gave another of its pleasant exhibitions of lantern slides to its members and a few invited friends at its rooms in the Academy of Sciences building last evening. The club belongs to two exchanges for slides, and new sets from various organizations of amateur photographers all over the country arrive frequently in their round of exchange.

Three sets were exhibited. They came from the amateur clubs of Baltimore, Md., Portland, Me., and Newark, N. J. The slides were made from negatives taken by roving amateurs, and many of the views were striking bits of scenery or of life, and many of them showed great photographic skill. There were scenes from cities and from the country and from even California and Canada, where some amateurs had been with their cameras. During the evening Professor d'Estrella, the well-known deaf mute of the Deaf, Dumb and Blind Asylum, gave some interesting illustrations in pantomime. Professor d'Estrella has become an enthusiastic amateur photographer, and is a member of the club.

January 27th.—The club gave an illustrated lecture on "Venice," in Metropolitan Hall.

CAMERA SECTION, BROOKLYN Y. M. C. A.—The section was organized a year ago, with twelve members, which has now increased to twenty. Suitable dark-room facilities are provided, and a Y. M. C. A. Lantern-Slide Interchange is talked of. At the late annual meeting the following officers were elected: President, William H. Lowery; Vice-President, F. F. Braillard, Jr.; Secretary, Bernard A. Burger; Treasurer, William D. Johnston.

PHOTOGRAPH DEPARTMENT OF BROOKLYN INSTITUTE.—*Monday Evening, January 25th.*—At the regular monthly meeting an interesting lecture, illustrated by very beautiful slides, on "Photo Micrography," was given by Dr. Henry Stearns. Informal meetings are held every week.

PHOTOGRAPHIC SECTION OF THE AMERICAN INSTITUTE.—*Tuesday, January 5th.*—Mr. H. J. Newton, the president, occupied the chair. The secretary exhibited two photographs of Niagara Falls, which had been presented by the Eastman Company. Mr. F. J. Harrison exhibited a sample bottle of the Rodinal developer and specimens made with its aid. He claimed it to be superior for bromide paper, since it gave perfect whites and rich blacks. Dr. Bartlett then informally gave a description, illustrated by slides, from negatives made by a hand camera—a trip from New York to the battlefield of Waterloo—which was well received.

BOSTON CAMERA CLUB.—The exhibition of prints terminated January 16th (see notice on another page), and was quite successful.

Monday Evening, January 18th.—The Rev. Dr. Francis Hazlewood, of Lynn, Mass., entertained the members by an interesting illustrated lecture on "Africa," accompanied by numerous lantern slides.

COLUMBUS CAMERA CLUB.—The annual meeting of the Club was held on the evening of December 17, 1891. It was stated that Mr. H. Irwin had been successful in winning the Bausch & Lomb lens and shutter.

The annual reports were presented and new officers elected as follows: President, Mr. Perry Smythe; Vice-President, Mr. H. Irwin; Secretary, Mr. W. B. Kimball; Treasurer, Mr. C. S. Bradley; Librarian, Mr. E. Hoffmann.

On the evening of December 21st, "Yosemite Valley," as prepared by the California Camera Club, was shown, Mr. F. H. Howe acting as lecturer.

THE BROOKLYN ACADEMY OF PHOTOGRAPHY, *January 14th.*—The conference set of the Syracuse Camera Club Slides were exhibited and much liked.

Wednesday Evening, January 20th.—At the regular monthly meeting held on this date, with Mr. G. Poey in the chair, the Academy was entertained by a paper on "Lantern Slide Work," read by Miss Catherine Weed Barnes (see another page). After the reading the lights were lowered, and sixty slides of her own make were shown upon the screen, giving pleasure to quite a large audience.

COLORADO CAMERA CLUB OF DENVER, COLORADO.—Probably no camera club in the United States enjoys such advantages of scenery and climate as the one recently established in Denver, Col.

During the latter part of January, the club took possession of its new quarters in the Williamson Block, corner of Sixteenth and Tremont streets.

They are substantially and elegantly fitted with all the modern improvements, consisting of a gallery 25 x 40 feet, with an ample sky-light, a reception room 16 x 40 feet, with commodious printing, developing and bromide rooms attached. W. H. Jackson, the well-known landscape photographer, is the president of the club, under whose management it will doubtless rapidly come to the front.

The remaining officers are: F. W. Hart, vice-president; C. C. Candy, secretary, and H. S. Bellsmith, corresponding secretary. These gentlemen, in connection with Mr. E. H. Simonson and Mr. W. A. Hoover constitute the board of directors. Among the others J. A. Cham, W. E. Perkins, F. F. Chisholm, C. A. Roberts, G. E. Walters, A. F. Willmarth, R. M. Davis, L. Lehn, W. O. Stratton, and W. Y. Beach.

COLUMBIA SCENOGRAPHIC ASSOCIATION.—An association of amateur photographers, located at 1307 Columbia Avenue, Philadelphia, Pa. It was organized December 7, 1889, with a membership of eight, which has been increased to twenty. Business meetings are held on Monday evenings, and lectures or demonstrations on photographic subjects are given every Thursday evening. The dues are $13 per year. An exhibition of thirty-four pictures was held at the Northwest Branch of the Y. M. C. A. on January 26th. All of the members are hard workers and interested in improving their photographic practice. The officers are: President, S. Tudor Strang; Vice-President, Frank De Long; Secretary, Joseph S. Powell; Treasurer, L. V. Leach; Librarian, Charles H. Smith.

PORTLAND CAMERA CLUB.—The annual meeting of this Club was held Tuesday, February 2d, at 8 P.M., at the Club's rooms in the Society of Art Building. The President, Mr. F. H. Little, in the chair. The good weather and the promise of a slide exhibit served to draw a large attendance.

After the regular business and reports read showing the prosperous condition of the Society, the following officers were elected: President, Franklyn M. Lawrence; Vice-President, Dr. Stanley P. Warren; Secretary, Frederic S. Bullard; Treasurer, Wm. Sweat; Executive Committee, Nathan Clifford, Philip G. Brown, F. H. Little and Warren C. King.

The meeting then adjourned, and the slides of the Lynn and Mystic Camera Clubs were thrown upon the screen.

These slides were accompanied by lectures, and were particularly interesting. In both sets of slides were many excellent subjects, and the applause was frequent. The Detroit and Buffalo slides were received too late to exhibit, and will be shown later.

At the January meeting, the Albany and Syracuse slides were shown and greatly admired.

The Club is waiting patiently the arrival of a fine dissolving lantern ordered from London in the latter part of December, and hopes to receive the same in time to show up next set of slides.

A special committee is in charge of the Spring exhibition of photographs, and the members are getting ready to show their work for the past season.

It is rumored that one room will be carpeted with bromide enlargements.

THE AMERICAN LANTERN-SLIDE INTERCHANGE.—The interchange went into full operation for the season of 1892 last December, and is now working satisfactorily. Shipments are made about once in two weeks, which gives an opportunity for two clubs to see one set of slides per month. The election of new directors for the year 1892 took place in January. Most all of the old directors were re-elected, with the exception of the Syracuse and Baltimore clubs; in the former, Mr. Will H. Olmstead succeeded Dr. Gaylord P. Clark, and, in the latter, Mr. A. S. Murray succeeded Mr. F. M. Clotworthy. Mr. T. P. Andrews represents the California Camera Club.

In the month of March the several directors choose a manager and two assistants, who direct the movement of slides. The interchange put into circulation in January the English "Photography 1890 Prize Slides," which have been shown before the Newark and St. Louis Camera clubs, and are now gradually moving eastward. They will be exhibited in Joliet and Chicago, Ill., during the month of February. The editors of that journal were enterprising enough to adopt the American idea of packing slides by using rubber-grooved strips. The slides arrived from London in excellent order. A third English set of slides is to be put into circulation this month—the London *Amateur Photographer* 1890 Prize Slides, many of which, particularly in the class of architecture, are of very fine quality.

The clumsiness of the box in which they came was so noticeable as to require the manager of the interchange to devise new and more compact boxes, with rubber grooves, for their easy, inexpensive and safe transportation. Perhaps in England the distances are so short, the expense of transporting a large, heavy, clumsy box is no greater than a smaller one. In the United States, with longer spaces to cover, the bulk and weight makes a decided difference in expense. A fourth set of foreign slides is promised from the Society of the North of France, at Douai. The Interchange of 1892 thus supplies a greater variety than in any other year. Any clubs desiring to join this interchange should address the manager, Mr. F. C. Beach, 361 Broadway, New York.

TORONTO CAMERA CLUB.—This flourishing organization has secured ample accommodation for some time to come on the corner of Yonge and Gerrard streets, Toronto, Canada, where a fine portrait studio has been specially fitted up and other facilities offered to earnest amateurs. These consist of a well-furnished developing room, an electric light enlarging apparatus and a fine library. Regular monthly meetings are held the first Monday of every month, and on every Monday members are requested to bring specimens of their work, and anything which will interest other members. Lantern exhibitions are expected once a month. The club provides lockers at a small rent, and the rooms are open day and evening. Annual subscription fees are $5.00. The club offers excellent, advantages to all amateurs and is officered by: W. H. Ellis, M. D., M. A., president; E. H. Walsh, vice-president; R. G. Muntz, secretary, and R. S. Clarke, treasurer. Those desirous of becoming members are requested to notify the secretary.

RECENT EXHIBITIONS.

THE BOSTON CAMERA CLUB.

An informal exhibition of work executed by members of the Boston Camera Club was held at the club's rooms, No. 50 Bromfield street, from January 4th to 16th, and proved to be of greater interest than any of its predecessors. The pictures, some 600 in number, were divided into six classes, viz.: portraits and genre, landscape and marine, still-life, enlargements, interiors and transparencies. The most extensive exhibit in Class I. was that of Mr. Benjamin Kimball, whose work shows much thought, originality, and technical excellence. In all his numerous efforts he strives more to impart characteristic expression and poses to his models than general artistic effect, slighting, only too often, correct lighting and proper development. Mr. G. H. Eaton's single contribution of an 8x10 bust portrait (Miss Blanche Ring of Neil Burgess's

Company) was in every respect indeed a gem, and has been highly praised by connoisseurs. The success attained by Mr. Eaton is such that he has been frequently urged to become a professional, but he prefers to follow a more remunerative vocation. Five studies of a pretty Italian girl, in native costume by Mr. Wilfred A. French, appealed successfully to the eye.

Among Class II. the honors were divided between Mr. William S. Briggs and Mr. O. A. Eames, the former showing a dozen 10x12 prints on salted paper toned to various beautiful tints, evincing a high degree of poetic and artistic feeling, and the latter a series of surf views and quasi-moonlight effects that were matchless in natural fidelity and superior chemical effect. In his collection of foreign views Mr. E. L. Dresel displayed the rare knowledge of how to compose a picture, and in point of technique and brilliancy his photographs were second to none in the room.

The most noticeable display in Class III. was Mr. E. R. Andrews', his studies of fruit and flowers being most admirable. Among the enlargements Mr. A. R. Wilmarth's "Tower" stood out conspicuously, its conception showing true artistic intelligence, and meriting the author most favorable comments in the daily press, one enthusiastic critic comparing the picture to a Millet!

Class V. was monopolized by Mr. R. Ahl, whose interiors by flash-light were the best yet shown by any member of the club. The only transparency, contributed by Mr. French, consisted of a famous oak, and its striking appearance impelled a local art critic to write very learnedly about choosing the proper standpoint when photographing such subjects. Other successful contributors were Mr. W. L. Underwood (a specialist in domestic scenes), Mr. G. M. Morgan (the dark horse for big honors at the May exhibition), and Mr. Walter G. Chase,

The local press spoke most pleasantly of the exhibits, and aroused such an interest among the picture-loving public that the attendance was unusually large, auguring well for the joint exhibition to be held in Boston in the spring.

THE BAUSCH & LOMB LENS AND SHUTTER CONTEST.

REPORT OF JUDGES.

Below we give a copy of the letter sent out by the Bausch & Lomb Optical Company to the various organizations participating in this contest containing report of judges.

GENTLEMEN:—The judges appointed by us to decide upon the cash prizes to the Society and individuals according to the rules of contest have reported as follows:

"We, the undersigned, judges in the Bausch & Lomb Prize Contest, after a full and careful examination of 883 negatives submitted from thirty-seven photographic societies, have decided upon the awards as follows:

First Prize to negative of "Yacht," mark "No. 6."

Second Prize to negative of "Pawtuxet Cove," mark "X. L. No. 2."

Third Prize to negative of "Cattle Grazing," mark "U 16."

Fourth Prize to negative of "Sheep at Pasture," mark "D. A. W. S. D. 7."

The Club Prize is awarded to the lot of negatives marked "L," averaging 7.54 on a scale of 10. The lot of negatives marked "O," averaging 7.45 is entitled to special mention.

We consider the following negatives worthy of honorable mention: "M 21," "E E 1," "Q 15," "P 31," "O 28," "A 29," "U 28," "Z 29," "B B 11," "H H 6," "T 2," "L 11," "O 21," "R 11," "G 4," "A 27," "W 39," "I 12," "N 5," "I I 6." "V 25," "K K 4," "W 41," "D D 2," "D 12."

(Signed)
F. C. Beach,
Randall Spaulding,
John Nicol,
G. Hunter Bartlett.

The negatives referred to by letters and figures were made by: "Yacht" No. 6, S. Tudor Strong, President, Columbia Scenographic Association, Philadelphia, Pa.

"Pawtuxet Cove," X. L. No. 2, Arthur W. Hone, Providence Camera Club, Providence, R. I.

"Cattle Grazing," U 16, Professor J. N. Bradford, Columbus Camera Club, Columbus, Ohio.

"Sheep at Pasture," D. A. W. S. D. 7, Hugh L. Reeves, Bridgeton Camera Club, Bridgeton, N. J.

Club Prize—Negatives, "L," Providence Camera Club, Providence, R. I.

Special Mention—Negatives, "O," Bridgeton Camera Club, Bridgeton, N. J.

HONORABLE MENTION.

M. 21, O. A. Eames, Boston Camera Club, Boston, Mass.
E. E. 1, E. D. Jones, Schenectady Camera Club, Schenectady, N. Y.
Q. 15, M. H. Rochester, Albany Camera Club, Albany, N. Y.
P. 31, A. P. Yates, Syracuse Camera Club, Syracuse, N. Y.
O. 28, H. A. Janvier, Bridgeton Camera Club, Bridgeton, N. J.
A. 29, Daniel K. Young, Society of Amateur Photographers, New York.
U. 28, F. H. Hone, Columbus Camera Club, Columbus, Ohio.
Z. 29, V. Trowbridge, Brooklyn Society of Amateur Photographers, Brooklyn, N. Y.
B. B. 11, E. E. Dewitt, Photographic Society of Waterbury, Waterbury, Conn.
H. H. 6, E. L. Griffith, Toledo Camera Club, Toledo, O.
T. 2, W. M. Butler, St. Louis Camera Club, St. Louis, Mo.
L. 11, C. S. Hudson, Providence Camera Club, Providence, R. I.
O. 21, Frank T. Moore, Bridgeton Camera Club, Bridgeton, N. J.
R. 11, F. H. Fultz, Burlington Camera and Sketch Club, Burlington, Ia.
G. 4, T. W. Castleman, New Orleans Camera Club, New Orleans, La.
A. 27, Chas I. Berg, Society of Amateur Photographers, New York.
W. 39, S. Roggenburger, Photo. Society of Wagner Free Inst., Philadelphia, Pa.
I. 12, Marlboro Camera Club, Marlboro, Mass.
N. 5, W. G. Speier, Century Wheelman Camera Club, Philadelphia, Pa.
I. I. 6, Dr. E. H. Riedel, Photographer Association of Brooklyn, Brooklyn, N. Y.
V. 25, W. Allen, Hoboken Camera Club, Hoboken, N. J.
K. K. 4, N. H. Boyce, Buffalo Camera Club, Buffalo, N. Y.
W. 41, Geo. E. Essig, Wagner Free Institute, Philadelphia, Pa.
D. D. 2, G. W. Hart, Brooklyn Institute, Brooklyn, N. Y.
D. 12, F. F. Harmon, Chicago Camera Club, Chicago, Ill.

In conclusion we desire to express our thanks for the interest manifested by your Association in this Prize Contest, and beg to remain,

Very respectfully yours,
Bausch & Lomb Optical Co.

PUBLISHERS' DEPARTMENT.

[In justice both to ourselves, and to those firms whose specialties are mentioned in this department, we desire to state that we neither ask nor receive compensation for such notices as are given. Any dealer or manufacturer who sends us samples of goods for notice will receive just what the merits of the goods deserve, no more and no less. Any apparatus sent us for trial and notice will be returned if so requested. This department is maintained in the interests of our readers, to whom timely notice of novelties may be valuable.]

IOTA CELLULOID TRANSPARENCY FILMS.—A new departure, which will be appreciated. The celluloid is roughed on one side to imitate ground glass, while the other side is coated with a printing out emulsion. The film is placed over the negative in a printing frame, and printed out like a silver print. It is then toned any desired color and fixed in one bath, or a separate fixing bath. When finished, a positive beautifully clear in the high-lights and full of crisp detail is the result, which can be hung in the window as a transparency, and have the same appearance as glass. Furthermore, it will not break, and is very light. The films will be useful in making lamp shades and illuminated screens. With the ready-made films comes a package of toning powder prepared in the proper proportions to be mixed with water. Mr. George H. Chase, of Newport, R. I., has lately introduced these films. We have tried them with much success.

KALLITYPE PAPER.—Concerning the imported albumenized kallitype paper, a correspondent writes: "Though I followed directions carefully, I was not successful, as it refused to tone, and the albumen surface became quite soft." [We should like to hear of the experience of others.—EDS.]

MANHATTAN PRINTING PAPER.—We have tested this paper, which is now on the market, and found it to embrace all of the advantages and none of the disadvantages of plain prints. It is simple, easily worked, shows good detail, and clear, brilliant whites. The paper can be toned in several colors, and promises to be a valuable assistance to photographic printers.

LEAVING THEIR HOME.—From Mr. G. D. Milburn we learn that himself, Dr. S. C. Passavant, and Mr. Reichenbach severed their connection with the Eastman Company on January first, and are about to begin on their own account in a new business of a similar character. We were sorry to hear it on the Eastman Company's account, but believe it will not materially interfere with their established business. The experience and chemical knowledge which the new concern contains will undoubtedly make it very successful. We hear from outside sources that perhaps one of the older established houses will be their financial backers.

A PRIZE COMPETITION.

Mr. T. R. Proctor, proprietor of the Spring House, Richfield Springs, contemplates a prize competition for amateurs, with a view of securing the best collection of photographs of scenery in and around Richfield Springs. The details are not yet arranged, but it is expected the competition will close on October 1st.

THE OLD WITCH HOUSE DARK ROOM.—Mr. G. A. Spence is fitting up a model dark room in the "Old Witch House" at Salem, Mass., built in 1631, which will be at the service of amateurs visiting that interesting place.

BOOKS AND EXCHANGES.

Outing for February has some very interesting features which call for special attention. The article on "Cycling in Mid-Pacific" has received many compliments as also the serial, "Saddle and Sentiment," which grows yet more interesting. Fishing, curling, riding, hunting, rowing, all receive attention, and there are two short poems. In the Record pages considerable space is given to different sports and occupations. OUTING has made a new departure in giving much attention to photographic work, there being an article on "Photography and Athletics," illustrated, and two editorials on "Amateur Photography."

CATALOGUE OF PHOTOGRAPHS.—A small pamphlet of 30 pages, containing a list of the choicest photographs made by W. H. Jackson, and published by the W. H. Jackson Photograph and Publishing Company, of Denver, Col.

THE YEAR-BOOK OF PHOTOGRAPHY, 1892. Edited by T. C. Hepworth, F. C. S.
Publishers, Piper & Carter, London, England.

A book of 256 pages, containing a collotype illustration of "A Manx Glen" as a frontispiece, and numerous illustrations of photographic apparatus and devices. In addition to recipes and valuable formulæ in the back of the book are various practical articles of interest. "Density in Negatives" is treated on by Captain Abney. H. P. Robinson tells "How to Make Pictures," other articles on "Panoramic Pictures," on the "Use of the Swing Back and Rising Front, with single lenses," "Permanent Photographs in Iron-Oxide," "Cloud Vignettes," "Flash Lamps and How to Use Them," "Reducing Silver Prints," "Printing on Plain Salted Paper," "Stopping out Negatives," "Gelatine-Bromide Paper," "The Eikonogen and Hydroquinone Developers," "How to Chose a Photographic Shutter," and "Changing Plates while Traveling" are of practical interest.

The book contains many compilations of interesting articles extracted from the *Photographic News*. It is gotten up in the usual style, and is a convenient and useful hand-book for the amateur or professional photographer.

THE COSMOPOLITAN FOR FEBRUARY contains an interesting illustrated article on "Leading Amateurs in Photography," by Clarence B. Moore, of Philadelphia, Pa. The pictures reproduced are "High Noon," by Mr. Moore, showing cows fording a brook near the arch of a bridge; "On the Brandywine" and "The Wayside Spring," by Dr. Charles Mitchell; portrait of a child, by Mr. James L. Breese; "The Village Blacksmith" and "The Village Cobbler," by Mr. George A. Nelson (the latter picture appeared in the January number of THE AMERICAN AMATEUR PHOTOGRAPHER; "A Revery," by Mrs. N. Gray Bartlett, of Chicago (a figure-study very gracefully posed); "Hesitation," by Mr. Robert S. Redfield; "Weary," by Mr. Alfred Stieglitz, a picture now well known and appreciated; "Salting the Fish," by Mr. John H. Tarbell; "Listening to the Birds," by Mr. John E. Dumont, a picture which early received a medal, and has lately been medaled in India. Mr. Dumont is one of the foremost American amateurs; and "At the Well," by Miss Emma S. Needles, of Baltimore, a simple yet attractive picture.

Mr. Moore has included the records, so far as medals and diplomas are concerned, of several of the representative amateurs, and gives an account of their peculiarities and tastes. His article is designed mainly to illustrate the artistic side of photography, and the term "leading" applies to such amateurs rather than to others, who have been prominent in other branches. The half-tone cuts are very well produced.

THE ROCHESTER CAMERA.—A pamphlet describing this new camera, published by the Rochester Camera Manufacturing Company, Rochester, N. Y. It is illustrated and quite unique.

PHOTOGRAPHIC PUBLICATIONS.

	Per Copy
The Photographic Image. A Theoretical and Practical Treatise of the Development in the Gelatine, Collodion, Ferrotype, and Silver Bromide Paper Processes. By P. C. DUCHOCHOIS	$1 50
The Art and Practice of Silver Printing. By H. P. ROBINSON and CAPT. W. DEW. ABNEY, R.E., F.R.S. (Third Edition.) Paper Covers	50
Library Edition	75
Photography with Emulsions. By CAPT. W. DEW. ABNEY, R.E., F.R.S. A treatise on the theory and practical working of Gelatine and Collodion Emulsion Processes. (Second Edition.) Paper Covers	75
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Hardwich's Photographic Chemistry. A manual of photographic chemistry, theoretical and practical. (Ninth Edition.) Edited by J. TRAILL TAYLOR. Leatherette binding	2 00
Twelve Elementary Lessons on Silver Printing. (Second Edition.) Paper covers	50
About Photography and Photographers. A series of interesting essays for the studio and study, to which is added European Rambles with a Camera. By H. BADEN PRITCHARD, F.C.S. Paper covers	50
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The Chemical Effect of the Spectrum. By DR. J. M. EDER. Paper covers	25
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Picture Making by Photography. By H. P. ROBINSON. Author of Pictorial Effect in Photography. Written in popular form and finely illustrated. Paper covers	75
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First Lessons in Amateur Photography. By PROF. RANDALL SPAULDING. A series of popular lectures, giving elementary instruction in dry-plate photography, optics, etc. (Second Edition.) Paper covers	50
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Photographic Printing Methods. By the REV. W. H. BURBANK. A Practical Guide to the Professional and Amateur Worker. Cloth bound	1 00
A History of Photography. Written as a practical guide and an introduction to its latest developments. By W. JEROME HARRISON, F.G.S., and containing a frontispiece of the author. Cloth bound	1 00
The Photographic Negative. A Practical Guide to the Preparation of Sensitive Surfaces by the Calotype, Albumen, Collodion, and Gelatine Processes, on Glass and Paper, with Supplementary Chapter on Development, etc., by REV. W. H. BURBANK. Cloth bound	1 50
The Photographic Instructor for the Professional and Amateur. Being the comprehensive series of Practical Lessons issued to the Students of the Chautauqua School of Photography. Revised and enlarged. Edited by W. I. LINCOLN ADAMS, with an Appendix by PROF. CHARLES EHRMANN. Paper covers	75
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A Dictionary of Photography. For the Professional and Amateur Photographer. By E. J. WALL Illustrated. 240 pages. Cloth bound	1 50
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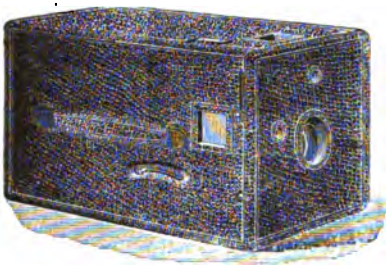

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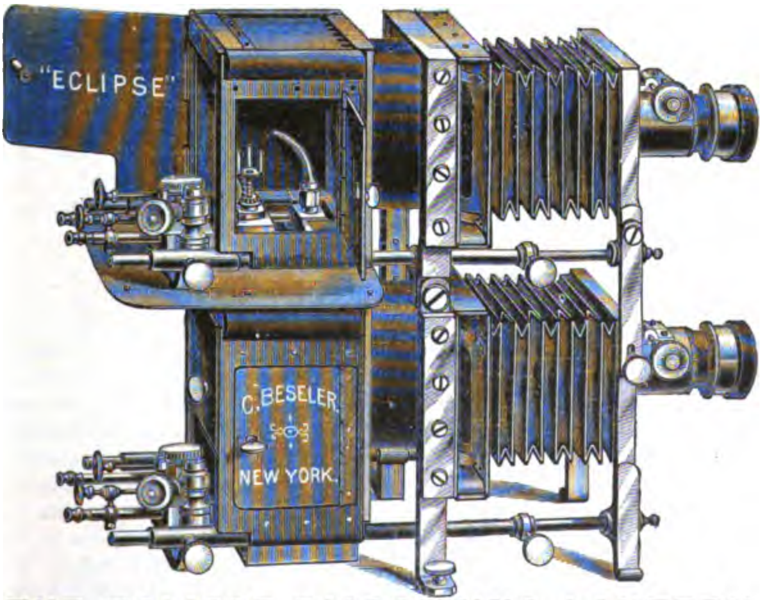

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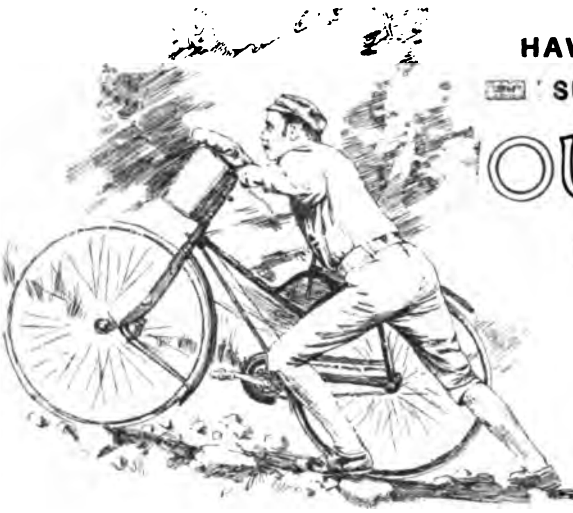

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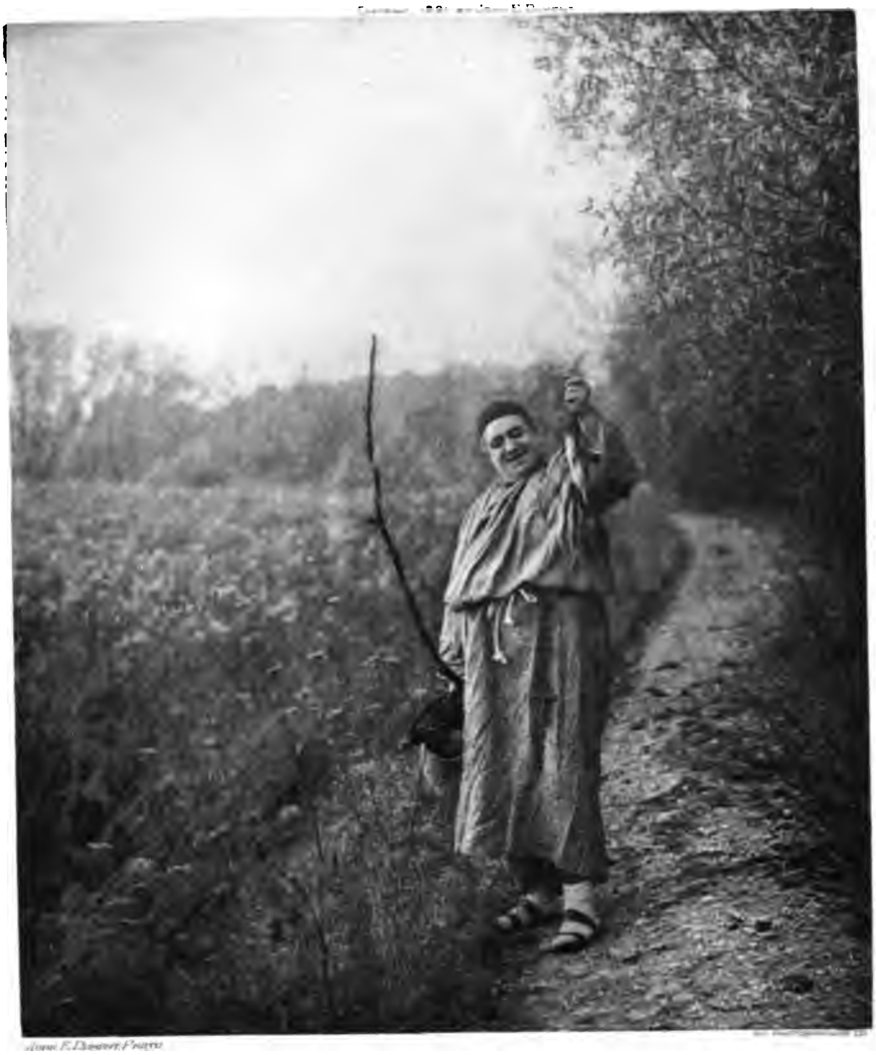


To-morrow will be Friday.

THE AM[illegible]

AMATEUR PHOT[illegible]

[illegible] NEW YORK, [illegible]

Photographing in Qu[illegible]

By J[illegible] H. [illegible]

A[illegible] the many places which [illegible] persons [illegible], it seems to me [illegible] from New Y[illegible] is more esp[illegible] [illegible] visit[illegible] [illegible] over for a [illegible] in [illegible] but I would [illegible] *hurt* as [illegible] [illegible] that could be desired in the way of [illegible] freedom of [illegible] was [illegible] [illegible] at New York city. [illegible] comparatively few [illegible] [illegible] to realize, after [illegible] [illegible] to say [illegible] [illegible] one could [illegible] [illegible] Canadian friends [illegible] made it a point to [illegible] One can go [illegible] upon the citadel [illegible] however, [illegible] of the embankment, and no objection [illegible] or to his [illegible] tripod in close [illegible] the outer fortification. From this point [illegible] the [illegible] River, a magnificent panorama presents itself [illegible] the [illegible] temperament can never grow weary of it. [illegible]

THE AMERICAN
AMATEUR PHOTOGRAPHER.

VOL. IV. NEW YORK, MARCH, 1892. No. 3.

EDITORS:
F. C. BEACH. CATHARINE WEED BARNES.

Photographing in Quebec and Vicinity.

BY JOHN H. TARBELL.

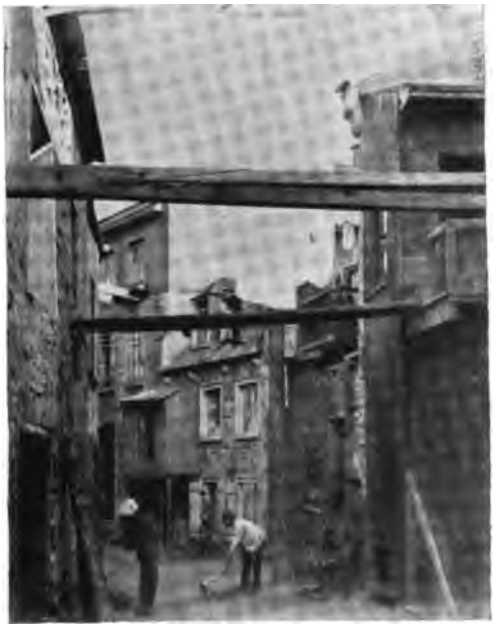
AMONG the many places which the tourist can visit for photographic purposes Quebec, it seems to me, is one of the most interesting. The journey from New York is not especially fatiguing when taken by easy stages, visiting, as I did, a portion of the Adirondack region, and then remaining over for a day or so in Montreal. The route can be varied, of course, but I would advise, by all means, making the trip from Montreal to Quebec by *boat,* as the approach to the ancient city, seen in the early morning, is exceptionally fine. During a Summer spent in that vicinity, I found all that could be desired in the way of artistic "bits," and the lazy quiet and freedom of the old town was an agreeable change after the noise and hubbub of New York city. The military glory of Quebec has departed for a season; comparatively few red-coats are to be seen there at the present day, and it is hard to realize, after rambling around the sleepy old place, that it has been the scene of so many stirring and eventful episodes. There one may wander with the camera "from early morn till dewy eve" without being molested, there being few of the tiresome restrictions so common in European cities, to say nothing of our American towns. In fact, so far as I learned, one could photograph wherever they pleased, with the single exception of the interior of the citadel. Even this privilege was granted in former times, I believe, but after the Fenian raid, a number of years since, our Canadian friends became more stringent in their rules governing the fortress, and made it a point to shut out all inquisitive Yankees with a camera. One can roam at will upon the citadel hill, however, just outside the walls of the embankment, and no objection whatever is made to the camera fiend, or to his planting his tripod in close proximity to the trench which surrounds the outer fortification. From this point, overlooking the St. Lawrence River, a magnificent panorama presents itself to the tourist. One of artistic temperament can never grow weary of it. The charm of the landscape, as seen from this wonderful cliff, is "new every morning and fresh every evening." To the eastward, and far below, lies the lower town, with its quaint old buildings, church spires, and old houses with gabled roofs. That broad promenade, the Dufferin Terrace, is in the nearer foreground. Beyond stretches the broad St. Lawrence with the Laurentian Range of hills in the hazy distance. The accompanying illustration gives a faint idea of the beauty of the scene. It was taken under the eye of the sentinel, who did not see fit to disturb me in my enjoyable avocation.

A strong contrast to this scene is to be found in many of the old streets of the lower town. They are very suggestive of some of the by-ways and alleys of European cities. This, together with the fact that French is the prevailing language in Quebec, makes it hard to realize sometimes that one is touring in the new world instead of a foreign city. Let me advise all amateurs visiting that locality, to familiarize themselves, if possible, with a few stock French phrases, it being a wonderful help to the stranger, as I have found by my own experience. It frequently happens that one meets *habitants* who do not understand a word of English, and although the sign language will go a great way, the time often occurs when something more practical seems imperative. How often have I fervently wished that I was more fluent in that tongue when after frantically endeavoring to explain my meaning, both by signs and the most execrable French, I have been encouraged only by mystified stare.

DUFFERIN TERRACE AND ST. LAWRENCE RIVER.

After plodding through some of the interesting old streets, I selected one in particular as being unusually good for my purpose, but the place abounded in swarms of children, who took such a friendly interest in myself and camera, that I found it absolutely necessary to postpone taking a picture until the early morning hours, before any of them were stirring. This plan succeeded admirably, and by so doing, I was enabled to secure a good picture of "Sous le Cap" street. As its name implies, the location is directly under the cape, or cliff, and the street possesses an additional interest from the fact that Benedict Arnold was there wounded during the siege of Quebec, early in the Revolution.

I seldom object to one or more figures in my pictures, and at the early hour in which I arrived there, a few of the natives were stirring and were utilized for the occasion. As a rule, I found them very obliging about posing for me, although once in a while one meets with a rebuff. This may be due, in some cases, to a want of tact, arising from an imperfect knowledge of the language. The principal figure shown in the illustration above who was chopping wood at the time I was arranging my instrument, was accosted with my usual stock phrase used at such times, "Voulez vous poser, monsieur?" and, on his signifying his willingness to do so, was posed as indicated. After the exposure was made, I ask him if he would like to look through the camera, to which proposition he consented with alacrity. I placed the focussing cloth over his head, and he remained immovable for some moments as if lost in admiration.

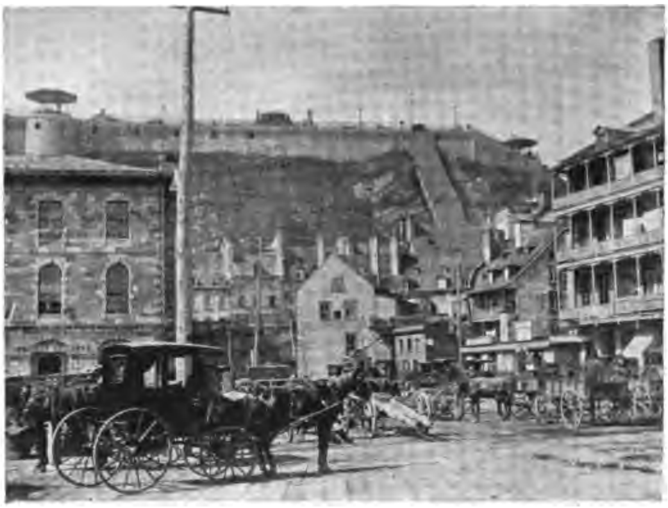


"SOUS LE CAP" STREET.

I asked him if he saw the picture, and he admitted that he did ; still he remained with his head motionless, as if glued to the camera.

I was at first gratified, then mystified, and lastly impatient. Finally the brilliant idea filtered through my brain that he might be waiting for *me* to remove the black cloth, not feeling at liberty to do it himself. So I cautiously uncovered him, and as he walked away, apparently quite satisfied, I had reason to believe that my supposition was correct.

Quebec abounds in dilapidated old houses, and they are very interesting from an artistic standpoint, but would not be very desirable as places of residence. On one street in particular, I remember seeing a number of them which appeared in imminent danger of toppling over ; indeed, heavy beams of wood were braced against them to prevent such an occurrence. Families were living in them, however, and I suppose had become indifferent to the peril they were incurring. These houses were situated directly under the cliff on which the citadel is built, and it seems not at all improbable that another landslide may occur at some future time, equal in severity to the one experienced some years since.



CHAMPLAIN MARKET PLACE.

I very much desired to obtain a photograph of this street, but the time of day in which it was visited forbade such an undertaking. The attempt was made, but no sooner was the lense pointed in a particular direction, than it was immediately surrounded by hordes of children, who chattered, gesticulated, and danced about me, until I was forced to beat a hasty retreat.

Two events in the week of importance to Quebecers, are the regular market days, which occur on Tuesdays and Saturdays. On these occasions the produce dealers arrive in force, and every conceivable article in that line is exposed for sale. Other knickknacks are also exhibited, and the scene is a lively one for a while. The Champlain market, in the lower town, is perhaps as interesting as any to be found, especially on Saturdays. It is necessary to go early in the day, however, as the majority of the small dealers leave as early as twelve o'clock. Stationing myself one morning under a market stall, and a little to the right of where the busiest scenes were being enacted, I asked permission to take a photograph, which was readily granted. In the foreground were to be seen the truckmen and dealers of various kinds, pursuing their different avocations. Immediately beyond were some very picturesque old buildings, while in the background was to be seen the passenger elevator leading up to the Dufferin Terrace. The large building on the right is, I admit, somewhat distorted in the photograph. In my eagerness to secure the scene, having to employ the drop-shutter, I failed to notice the error at the time. It is doing only simple justice to Quebecers to state that the apparent decrepitude of this building was due to injudicious haste on my part. The majority of their

GROUP OF INDIANS PARLIAMENT HOUSE.

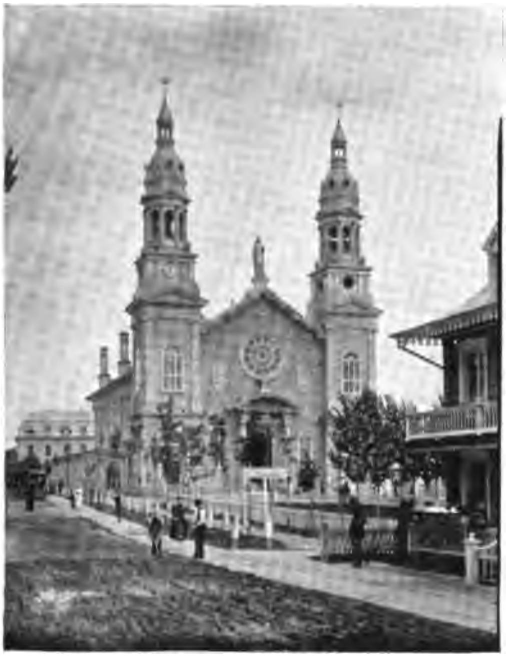
structures are solid, substantial-looking affairs, and built with a view to last.

Perhaps as great a contrast as can be found to the old houses of the city is seen in the new Parliament building, constructed of white marble and not as yet entirely completed. It occupies a commanding position in the upper town, and is approached by a beautiful lawn containing a variety of cultivated flowers, and with a handsome bronze group of Indians in front of the main entrance. A muscular warrior stands in the center, his hands resting upon his bow; to the right another Indian, in a kneeling posture, is in the act of drawing his bow; at the left a female figure with a little child is watching expectantly for the flight of the arrow. All the faces have an animated and lifelike appearance, and are well worth a careful study. They are supposed to be the first party of Indians which the founder, Jacques Cartier, discovered on landing at Quebec. Two niches in the wall over the entrance are vacant, as yet, but are shortly to receive statues of Wolfe and Montcalm. I did not ask permission to take this group, but, reasoning from my former experiences, and the great latitude allowed in this direction, placed my camera in front of it and commenced operations. A policeman watched me from his beat near the building, but did not offer to molest me. Very different was the treatment which I once received in an endeavor to photograph the Barge Office from the Battery Park, New York.. There I was pounced upon by a brutal Irishman, a club flourished in my face, and ordered off without ceremony, notwithstanding the fact that I had previously asked permission to photograph there. A statue of Queen Victoria stands alone and amid very humble surroundings in a yard some distance below and opposite the Parliament building. Her features wear a serene expression as she gazes steadfastly at the noble structure beyond. Apparently, she is indifferent to her present humble environments, knowing that she is destined at some future day to occupy a more exalted position, and where she will, undoubtedly, gaze back curiously at the unsightly piles of rubblish which now form her habitation.

A pleasant ride of about twenty-five miles by rail, brings one to the quaint village of Ste. Anne de Beaupré, where the famous shrine and church of Ste. Anne's are located. On the day when I made the excursion to this resort the train was crowded with pilgrims, afflicted with various complaints, who were making the journey to the shrine in the hope and expectation of being cured of their infirmities. The maimed and the halt were well represented, different nationalities, and different religious sects being among the number.

The train passes through a very pleasant country bordering on the St. Lawrence, and in an easterly direction from Quebec. The famous falls of Montmorenci are seen to good advantage at a point about eight miles from the city. This waterfall is at least sixty feet higher than Niagara, but is very narrow in comparison, and consequently the volume of water which is precipitated is not nearly as great.

Arriving at the station of Ste. Anne's, we all walked toward the church, which is near at hand, a large stone structure, surmounted by two towers. The majority of the passengers entered the church at once, as a service was to be held there, but as I wished to obtain a photograph of the edifice, my entrance was postponed until a little later. After I had secured the view, and before I was ready to enter the building, the service had been completed, and a procession of pilgrims was observed issuing from the church and passing through a narrow walk, and out again into the street near where I was standing. A sign-board with a notice in French indicates the pilgrims' walk. They all walked with a slow and measured tread, chanting solemnly as they marched, and disappeared in the distance.



CATHEDRALE DE STE. ANNE.

Having obtained a simple lunch at one of the numerous small restaurants with which the village abounds, and leaving my camera in charge of the obliging proprietor I entered the church. Almost the first sights to which one is attracted are two immense pillars, on either side, surrounded by a multitude of crutches of all sorts and sizes, and extending nearly to the roof. A few remaining pilgrims were scattered in different places, some seated, others in devotional attitudes. Here and there were to be seen upon the walls, notices extolling the virtues of Ste. Anne, with statements of the remarkable cures which she was able to perform.

A large statue of the saint stands in front of the altar, and around this were kneeling pilgrims who remained for a long time in this position, and fervently kissed one of the relics on arising from their devotions. On the whole, the scene is far from pleasing to a descendant of the Puritans, and one is inclined to cavil at the stories of the remarkable cures which have there taken place, notwithstanding the fact that some of them appear indisputable. Who can deny that it *may* be possible in some instances with Him who "worketh when, and where, and *how* He pleaseth?"

The return to Quebec was made late in the afternoon, and as we approached the old historic city it was bathed in the soft haze of evening sunlight, the citadel alone looming darkly against the horizon. Like a lonely sentinel it appeared to stand—grim, immovable and even watchful May it long resist the wrecks of time, an imposing monument and reminder of those two gallant soldiers, Wolfe and Montcalm!

Notes on the Latest Developers.

BY F. C BEACH.

[Abstract of an address before the Albany Camera Club, March 4th, 1892.]

UPON the invitation of your president, Mr. W. W. Byington, I will speak on the subject of developers, relating my experiments on a few of the latest.

The ferrous oxalate was the first I have tried, and I had very good success with it, but found it limited, especially in the development of rapid exposures. The saturated solutions varied with the temperature, and there was a tendency of precipitation of the iron. It is a nice developer for beginners, and has the merit of being very clean. In using it on bromide paper I have observed that on the first two or three prints the back of the sheet would dry perfectly white, but after that they would possess a yellowish tinge. This, of course, can be avoided by rinsing the print in a dilute solution of acetic acid and water just after development, before fixing. But it is like adding an extra manipulation to the developing process. I prefer to simplify the developer and development as much as possible, and have given my attention to those developers having that end in view.

Soon after the introduction of the ferrous-oxalate developer appeared the pyro and ammonia, which is a very quick and more powerful developer. It has to be restrained with a bromide, and, when used in developing undertimed exposures with prolonged development, is likely to produce what is known as green fog. Besides this, in the varying temperature of our climate the strength of the ammonia changes and lacks the standard uniform quality which one prefers—as found in the fixed alkalies. The plain pyro and ammonia developer quickly oxidized and became muddy at the end of the development of one plate, and had to be thrown away. The Americans began to substitute a fixed alkali, like crystallized carbonate of soda (ordinary sal soda), for ammonia, and obtained as equally good results; but the negatives were of a sickly yellow-green color and quite thin. They were slow printers.

I remember Mr. David Cooper showing me pyro and soda developed negatives in 1882, remarkably thin, but full of detail, which were of the sickly hue or color described. They, however, yielded vigorous prints.

About this time, in 1882 or perhaps the latter part of 1881, Mr. Herbert Berkley suggested the use of neutral sodium sulphite in the developer, in the proportion of four ounces of sulphite to one ounce of pyro, as a preservative of the pyro solution and a retarder of oxidation when mixed with an alkali. I was much interested at the time in this discovery, and imported two bottles of Mr. Berkley's preparation from England, one of which I have kept to this day, which is still clear, though, as the temperature decreases below freezing, a portion of the sulphite crystallizes out in the bottom of the bottle. It is a ten per cent. solution, 48 grains of pyro to the ounce; though ten years old, I still believe it will be as vigorous as ever. It is called "sulpho-pyrogallol," for retarding oxidation of the alkaline developer. The directions state "There are, as nearly as possible, 1 grain in 10 minims and 48 grains of pyro in each ounce of this solution." "By the use of this preparation negatives may be obtained both brilliant and clean, printing quickly and with wet-plate quality." Though standing so long, the color of the solution has changed very little; it is of a light-brown hue. Mr. Berkley acidified the neutral sulphite with citric acid (a few grains) and then added the pyro. In trying this solution with ammonia or carbonate of soda, as alkalies, I obtained negatives perfectly clear and free from any yellow color.

I applied to some of our principal dealers in photographic materials for sulphite of soda, but they knew nothing of it. I only obtained it at a high price from some of the leading manufacturing chemists. It was a year or more after I began using the sulphite before the principal dry-plate makers began to recommend it in their formulas. Now it is regarded as one of the necessary essentials in a developer.

Citric acid acting as a restrainer, and the sulphite of soda having a tendency to become converted into a sulphate (a detrimental compound), led me, at the suggestion of a friend, to try sulphurous acid as a preservative for the pyro and sulphite. In its presence there was no chance for the sulphite to become changed, while the action of the pyro was not retarded; a minimum amount of an alkali solution added to it was sufficient to produce development. With carbonate of potash in a concentrated solution I found an alkali of considerable power, of uniformity in action, reliable, and one that seemed to suit admirably the idea I had in view, that was to use as little alkali as was possible to set up a developing action, in order not to soften too much the gelatine film.

This developer I used continuously with success, being able, with a given amount of solution, to develop from three to six plates in succession at a time. The pyro solution will keep perfectly, and may be measured accurately. I gave my formula to a professional photographer who had been using ferrous oxalate, and have had the satisfaction of knowing that he used it continuously in preference to any other. For those who prefer the pyro (and many do) I will repeat the formula as at present modified :

No. 1.

Pyrogallol (a commercial ounce),	437½ grains.
Sodium sulphite (crystals chemically pure), (437 grs. to oz.),	4 ounces.
Warm distilled rain (or melted ice water),	5 ounces.
Sulphurous acid (strongest to be had),	3½ ounces.

Dissolve the sulphite in water; then, when cool, add the sulphurous acid, and lastly the pyrogallol. A solution of pyro equivalent to 48 grains to the ounce is formed, every 10 minims representing 1 grain.

No. 2.

Carbonate of potash (1 ounce),	480 grains.
Water,	3 ounces.

Equivalent to 20 grains, to 1 dram, of solution.

A good developer is made by adding to two ounces of water one and a half drams of No. 1 and half a dram of No. 2. More of No. 2 may be added for shortly timed plates.

The hydroquinone developer, though much slower than pyro, next came into extensive use for positives particularly, but later also for negatives, and was of value in producing negatives of contrast and clearness. But its action was much more prolonged than that of pyro. It is still preferred by many as a developer for lantern-slides, since it gives brown tones.

In the Fall of 1889 eikonogen, a wholly unknown developing agent, was introduced, was described as being a derivative of coal-tar, and of possessing remarkable developing power.

I at once tested it on bromide paper and plates with excellent success, and termed it a universal developer, since it was equally good as a developer for negatives and positives. The first samples resembled a dark-green powder in appearance, and made a greenish-looking solution. It was not rapdily soluble in water as compared with pyro, 1 ounce requiring at least 40 ounces of water at 65° F. In the course of a few months it was supplied in light-yellow crystals, which made a beautifully clear solution, but these, in hot, damp climates, oxidized on their surface, and, unless they were washed, would produce a dark solution, like the first obtained. About a year ago the product was still further improved by adding with the eikonogen crystals some kind of a bisulphite—either of soda or potassium—and crushing both to a fine powder, which is now supplied, and when made into a solution is of a light-yellow color.

In view of this addition, not so much sulphite of soda is necessary as formerly; hence a developer that is uniform, rapid, powerful and easily worked is readily made.

I use the following, mixed in the order named :

No. 1.

Warm water,	40 ounces.
Sodium sulphite (Merck's crystals, c. p.),	480 grains.
Eikonogen (1 ounce),	480 grains.

Averages between 11 and 12 grains to the ounce.

No. 2.

Potash,	480 grains.
Water,	3 ounces.

This is the same as the solution previously mentioned.

If in doubt as to the exposure, begin by using two ounces of No. 1, waiting until the image appears before adding any of No. 2; if development proceeds too slow, then add half a dram of No. 2 at a time until the details are brought out. It is well to allow the No. 1 solution to rest on the plate a minute or two before adding any of No. 2. No alkali need be added if over-exposure is feared, since the soda in the sulphite is a sufficient alkali to produce development.

I develop lantern-slides very successfully with a half-diluted solution of No. 1 by giving the plate a liberal exposure. Several plates may be developed in succession in one solution ; when it begins to act slow add more alkali and a little fresh eikonogen. If too much density is obtained the No. 1 solution should be diluted one-half. One point about eikonogen I have noticed is that it produces less chalky high lights than pyro, and is admirably adapted for the development of white drapery. With it negatives of unusual softness and clearness may be obtained.

Last Fall the merits of para-amidophenol as a developer superior to eikonogen was made known and extolled by the foreign French press.

Mr. James H. Stebbens, Jr., of the Society of Amateur Photographers of New York, proceeded to manufacture some, as none was to be had in New York, and exhibited a sample before the society. About the same time a small sample lot had been imported, and a few grains were given to me for trial by Dr. Charles Ehrman, of the *Photographic Times*. I found it unmanageable when mixed with much alkali, as recommended by Lumiere of Paris, but with a less amount succeeded fairly well, as described in the November (1891) number of THE AMERICAN AMATEUR PHOTOGRAPHER.

But the salt was very hard to dissolve, and a solution of two grains to the ounce was as strong as I could get it.

Next appeared a new preparation of para-amidophenol, in liquid form, called "rodinal," having the alkali mixed with it; for it is noticed that a greater quantity of the para salt will be dissolved in a strong alkaline solution than in plain water. But in testing this more especially on bromide paper I noticed, as compared with eikonogen, the blacks would not be as strong, while the tendency of the film (even in cold weather) to soften and dissolve off was quite marked. The strong caustic alkali used undoubtedly was the reason.

Knowing the injurious effects of such alkalies on the gelatine film, I am not disposed to favor them unless it is necessary for the development of undertimed plates.

If there is any particular merit in the salt over eikonogen, I should prefer to see what can be done with it in combination with the carbonate alkalis first, before attempting the use of the caustic kind.

I dislike (though it may be convenient) the one-solution developer, as I do not think it is as elastic as when the alkali is kept separate.

Quite recently a later sample of the para salt was kindly given me by Dr. Charles Ehrman, of the *Photographic Times;* said to be more soluble than the first specimen. I experimented with it in two or three ways. First, I made what would be regarded as a strong solution, taking hot water, 3 ounces; sodium sulphite (purchased as chemically pure); para, 20 grains, or about 6 grains to the ounce. It dissolved quickly, but on cooling in an hour or so, formed quite a crystallization of white, flaky crystals in the bottom of the graduate. I took it to mean a combination with the sodium sulphite, the latter, perhaps, not being neutral, and I attempted to re-dissolve the crystals by heating the water up to 150° F., but to no purpose. Perhaps half of them dissolved. I did not use this solution as a developer. I then tried an elementary experiment: took water at 65° F., one ounce, and readily dissolved in it para-amidophenol, 4 grains.

Having half a dozen Cramer isochromatic plates exposed pretty evenly, which had been standing in the holders for some seven months, I took one and applied to it the solution mentioned (which, by the way, was perfectly colorless) and allowed it to act for five minutes. No trace of an image appeared. I then added 10 grains of carbonate of potash, and after two minutes observed the appearance of the image and a gradual discolorization of the developer. Not proceeding rapidly enough, I added 10 grains more of potash, which accelerated the action. I kept the plate in the solution altogether for half an hour. At that time it was fully developed and of fair density. But the developer had become turbid and black. A good negative resulted. Next I dissolved 4 grains of eikonogen in 1 ounce of water, and applied that for five minutes to a similarly exposed plate. No trace of a picture appeared. Then I added about 1 grain of carbonate of potash, and in less than two minutes the image began to show. I kept up the development, without the addition of any further alkali, for a period of thirty minutes. After fixing out, the image appeared slightly clearer than the first negative and somewhat stronger. Both negatives had no yellow tinge. The solution was of a light-sherry color, but in less than twenty-four hours it became muddy and turbid, like the para solution.

This demonstrated that, given an equal quantity of each salt, the "para" required at least from ten to fifteen times as much alkali as the "eiko" to bring out the picture.

I next resolved to notice the effect of a combination of the eiko and para salts in the presence of sodium sulphite on a third plate, and obtained most satisfactory results, as you will see from the sample negatives I now show.

The solution was prepared as follows:

Sodium sulphite (chem. pure),	20 grains.
Water,	1 ounce.
Eikonogen,	4 grains.
Para-amidophenol,	2 grains.

The above, without any potash added, was applied to the plate; in one minute the image appeared, and in twelve minutes it was developed to ample density. When fixed, the negative was more clear and vigorous than the other two. The result was most convincing that a combination of these two agents means economy in both and a developing force superior to either, used singly. It also proves conclusively the value of the sulphite of soda as a gentle alkali (so to speak) to bring into play the developing action, serving at the same time, by the liberation of sulphurous acid, to act as a retarder of the oxidation of the developer.

In dissolving the para in the eikonogen and sulphite solution the latter appeared to grow lighter in color. The solution kept clear for a long time afterwards, and doubtless could be used on several other plates. To hasten development, carbonate of potash may be added in small quantities, as needed.

A formula given to me by a member of the New York society, Mr. A. L. Simpson, is said to be very powerful for under-exposed or instantaneously exposed plates. It is as follows:

No. 1.

Water,	4 ounces.
Sodium sulphite (c p.),	2 ounces.
Para-amidophenol,	20 grains.

The para salt will not fully dissolve in this amount of water, but will when the alkali or the whole of No. 2 is added.

No. 2.

Caustic soda (crystals); hydrometer test, 30; or about 60 grains to 4 ounces of water.

DEVELOPER.

Water,	2 ounces.
No. 1,	1 ounce.
No. 2,	1 ounce.

Or, when No. 2 is added to No. 1, use the mixture diluted with an equal amount of water.

It is very essential that the alum-hardening bath be used to counteract the effect of the caustic alkali. Mr. Simpson recommends the Cramer alum-fixing bath.

The continuation of experiments with these new developing agents can be made most instructive. It has afforded me pleasure to give your club first the results of my latest experiments.

Apparatus for Making Lantern-Slides.

BY DR. CHARLES L. MITCHELL.

THE object of the apparatus is to provide a fixed means always ready for making lantern-slides by reduction, which is capable of easy and quick adjustment. It is placed preferably so as to receive the light from a north sky. It can be readily made by any skillful amateur, and possesses advantages not usually found in such contrivances.

In Fig. 1, G is the camera (back focus preferred) mounted on a sliding platform which can be clamped by the screw-clamp, I, to any portion of the stand, a slot being cut lengthwise through the whole length of the inclined table upon which the sliding platform, H, runs. B is the negative carrier, consisting of a movable frame sliding upon a stationary frame, A. The movable frame is counterbalanced by means of balanced weights, K, connected with them by means of two cords, J, running over pulleys so that when a negative is placed in the frame it will remain stationary in any position in which it may be placed.

Fig. 2 represents the negative carrier in more detail. A, A, A represents the stationary frame, B, B, the movable frame sliding up and down on the face of A, and kept in place by running cleats upon the sides of A. The bottom cross-piece of B is grooved upon its *upper* surface, as represented at e and f, Fig. 2, e being a narrow groove, and f being a wide groove. From the bottom cross-piece of B to the top cross-piece run two narrow brass rods, c, c, close to the edge, and upon these is a movable cross-piece, D, grooved on its *under* side in the same manner as B (shown at e and f). This slides up and down easily on the brass rods.

The negative is placed in the movable frame, one edge resting in the lower groove, f, which is purposely made extra wide to admit of using two

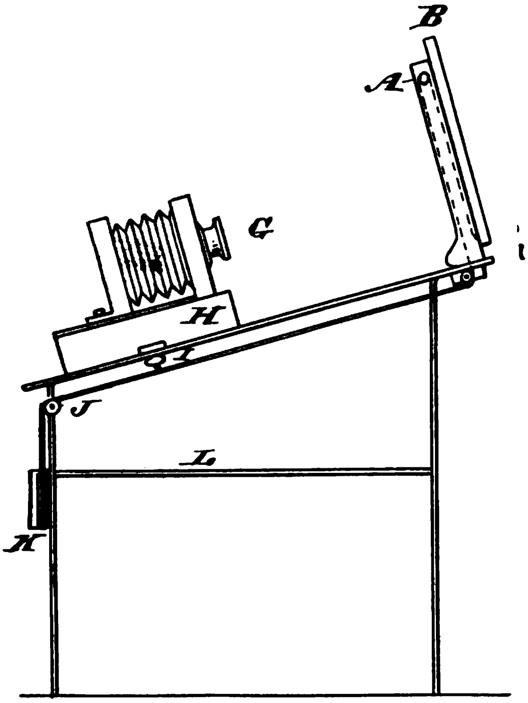


Fig. 1.

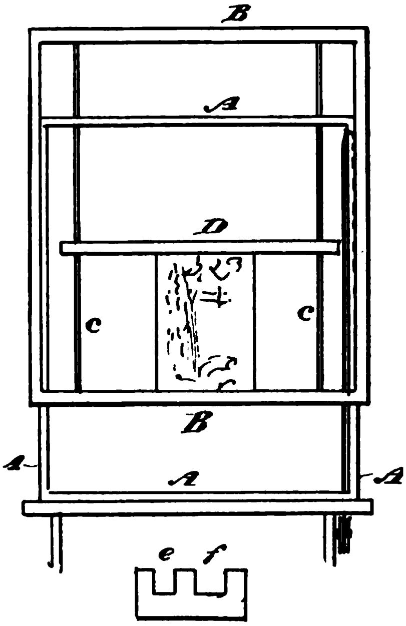


Fig. 2.

glasses, if necessary, when films are used. The sliding cross-bar, D, receives the upper edge of the negative in the corresponding groove, and, being movable up or down, receives any size negative from 3 x 4 up to 14 x 17. Lateral movement is obtained by pushing the negative, which slides easily in the grooves, from one side to the other of the sliding frame.

To cut off all front light, except that which comes through the negative, a piece of cardboard, cut to suit, slides in the narrow groove, e, from each side. A piece of dark flannel should also be tacked as a curtain to the bottom of the sliding frame, B, and the upper side of the sliding bar, D. In Fig. 1 the space between the sliding frame, B, and the camera, G, is covered by a dark cloth supported on one or two rods, resting on the camera and front. When standing at the rear of the camera, having the head covered with the focusing cloth, it will be seen how easily the negative can be raised or lowered into exact position as viewed on the ground glass, by simply pulling down or raising the two balance weights at the rear. Smooth working brass pulleys should be used. The weights may be adjusted to exactly balance the frame by adding small split ringlets of a half-inch lead pipe at the top of the weight. L is a shelf.

A Plea for Oxalic Acid.

BY W. E. PARTRIDGE.

WE wish to put in a plea for this long-forgotten acid as a preserver for pyro. Of course, every one exclaims that nobody uses pyro in these days. That is hardly true. A few old fogies hold on to it. As a developer for the tourist it presents some advantages. It can be obtained all over the country. There are but few corners of the civilized world where it cannot be picked up.

Oxalic acid as a preserver has some very decided advantages that are worthy of remembrance. It is permanent. It can be carried dry, and is obtainable at any store in the country towns. Lastly, it is used in very small quantities, and keeps the solution as clear and colorless as water. It came into disrepute some years ago, about the time, we think, that one editor introduced his sulphurous acid preservative because some blundering chemist stated that large quantities were necessary. A strong solution being injurious and a good preservative coming in at the same time, the poor oxalic acid method naturally was neglected. We propose what was and is rather a novel way of preparing a pyro solution. If it is for use in cold weather, take any desired quantity of pure water. Distilled water that has been recently well boiled is best. Any pure water will answer. Weigh the water, and then take 2 per cent. of this weight of oxalic acid. Add this to the water. When it has entirely dissolved, the pyro is to be added, but not before. One grain of pyro for every 20 grains of water is a very convenient ratio for those who use the common system of weights and measures. This is 5 grains per 100 metrically expressed, though it must be remembered that the result will not be a strictly 5 per cent. solution. If one is on the road, the solution may well be made twice as strong. If a solution is wanted to stand the hottest weather, and the purity of the water is doubtful, make the oxalic acid 3 per cent., instead of 2. This slight increase in strength is ample to preserve the pyro in the hottest weather, and is good for years. For Winter or cool weather and for short times 1¼ per cent. has been found ample.

But the advantages of our old friend do not stop here. We have tried for a few months the 3 per cent. solution as a means of keeping hydroquinone. The solution was perfectly colorless. It remained so in a partly filled, lightly corked bottle for some three months. At the end of that time the hydroquinone was used in preparing a developer, and was found to work as well as though freshly mixed. Although the experiment lasted for three months, there was no very warm weather during the time. The solution was made in September, and was used in the latter part of November. But little can be determined by an experiment covering so short a period. It will be a matter of much interest if others will try the keeping qualities of oxalic acid upon hydroquinone. The trial should extend through the Summer, and the liquid should be exposed to considerable heat, and the bottle ought not to be tightly corked. Hydroquinone in the solid state does not as a rule keep well. If it can be made stable in a liquid form, a very considerable advantage will be gained.

Through Norway with a Camera.

BY CHARLES SIMPSON.

MANY and varied are the accounts found in the different magazines as to traveling in Norway, which has assumed such large proportions during the last few years; and while tourists' trips have been fully described from time to time, there is yet, it seems to me, room for giving a little special information for the benefit of the amateur photographer who intends visiting Norway with his camera. I shall therefore avoid the description of the grandeur of the scenery, and the usual incidents so often dwelt upon by the writers on Norway, and try to confine myself, as far as possible, to the practical side of "picture-taking in Norway."

Tourist travel in that country might be properly divided under three different headings: the overland journeys across the mountains; fjords and valleys of Western Norway, and the North Cape trip. Any or all of these three can be accomplished in one season. The writer made them all in six weeks, but found ere long that he had a pretty big contract on hand, and will never hurry through Norway in the same manner again, as much of the finest scenery is often lost to the fast traveling amateur for want of time to choose and deliberate properly before making exposures. Commencing with Christiania, the amateur finds but little to warrant great waste of plates there. Street views on "Carl Johans Gade" and views around the rather pretty harbor comprise about all there is of photographic attractions. There is an amateur society in Christiania, having fifty-nine members; and its obliging secretary, Mr. Charles Söderberg, is always happy to meet foreign amateurs. Now let us suppose that, on leaving Christiania, we have made up our mind not to make the long and uninteresting railroad journey to Throndhjem, but instead choose the well-known Valders route over the mountains. Railroad and steamer bring us to Odnaes, when the overland trip proper commences, and which consumes, according to the greater or less hurry of the traveler, from two to four days. It may be stated here that it is most impracticable to bring a large camera in addition to your luggage on this journey. A 5x7 camera, packed in a strong wooden box, may do; but a hand camera, that can be set up on a tripod, is far preferable: one with two lenses of different focus—the change from one lens to the other being accomplished by means of a lever—would fill all requirements.

I mentioned in a previous communication the desirability of having your holders fitted with kits to fit plates of French measurement, which is a source of great convenience to those not wishing to burden themselves with a large supply of plates in crossing over. Buy your overland tickets in Christiania at either Cook's or Bennett's agency—the latter being preferable on account of his making Norway a specialty, and having lower rates. As you change horses fifteen times, it is far handier to tear off a ticket coupon in payment at each station than to make change. While the conventional "cariole" is still preferred by many, the "Stolkjaerre," a light cart holding two passengers beside the post-boy, should be chosen when two travel together, as it is less expensive than two carioles and holds more baggage. The post-boys are obliging, and will stop anywhere on the road for a reasonable time.

Among the many places along the Valders route where the camera comes in use may be mentioned: Fagernaes, on a lovely lake, at Fosheim, and all along the magnificent

SALMON FISHING IN NORWAY.

Loaned by the OUTING Co.

lake of Vangemjosem. We finally reach Nystuen, the highest point (3,250 feet) on the overland journey. There, on May 28th, after having for hours made our way up the mountain through snowdrifts, we found the station surrounded by ice and snow. When told that we were the first tourists of the season who had ventured to cross the mountains, we naturally felt a trifle proud. Going down the mountains toward the west the wintry landscape soon disappeared and the scenery became very fine. Beyond the station of Haeg the amateur finds enough to keep himself busy until he reaches Laedalsoren on the Sognefjord, where ends the overland journey. Here he should take steamer over the Sognefjord and the almost unsurpassed Naerofjord to Gudvangen, thence up the romantic Naero to Stahlheim (good dark room at the hotel); but, as many plates are needed on the way from Laedalsoren, be sure to have your holders all filled before starting in the morning. Going down from Stalheim toward Hardangerfjord, one usually stops over at Vossevangen (dark room accommodations at Fleischer's hotel), a most charming place; thence we continue to ride, when steamer is taken to Odde. Be sure to have your holders all filled on this trip also, as lovely views abound while going over the Hardangerfjord. At Odde one generally stays two or more days. In fact, the man with a camera who hurries away from there doesn't know how much he has lost by not spending more time at and around Odde (at Praester-gaards Inn, tolerable dark room in cellar). Two excursions—one to the glacier of "Buarbrae" and the other to the falls of Lotefos—should not be omitted, for the sake of many charming views of this region. From Odde we take steamer direct to Bergen — one is ambitious enough to cross the Folgefond glacier—and a number of snapshots fired on the way are likely to add to your store of interesting negatives. The above, jotted down as briefly as possible, comprises the route usually followed in doing the Sogne and Hardangerfjord districts, so famous for their scenery, besides being the most accessible of all the fjords and valleys of Western Norway. At Bergen try and locate at or near "Torvet," the city square; a few days can be very profitably spent here, and a hand camera is just the thing for views around the fish market and the harbor. Those going north from Bergen should lay in their supply of plates here, as nowhere north, not even at Throndhjem, was the writer able to procure any, but had to get them sent on from Bergen. Beyer, bookseller, Strand-Gade 2, keeps a fair supply of plates; but Nerlien, Veiten 5, who makes a specialty of amateur trade and carries a larger assortment of plates (even English sizes), is preferred by many; besides, you can develop in his dark room to your heart's content.

The saying is, that all roads lead to Rome, and likewise there are a number of routes to Throndhjem from Bergen, all very interesting, each having its advocates. Will briefly describe only the rather round-about route chosen by the writer. Took steamer from Bergen to Orstenvik, passing around the promontory of Stadtland, so well known to tourists addicted to seasickness; in fact, most of our passengers gave way to their feelings at this particular point of the journey. The amateur finds many fine subjects for views after his arrival at Orstenvik, and thence on the high road to Saebo; but here the larger size camera is missed by the one carrying a hand camera. At Saebo we cross the Jorund-fjord to Oie in a row-boat. This fjord is claimed by the Norwegians to be the finest in Norway. Unfortunately a pouring rain prevented me from carrying off any souvenir of its beauty. At Oie the amateur who has time to stop over is apt to carry off some of the finest bits of scenery, in shape of negatives, of this romantic region (good dark room at Hotel Retiro). From Oie to Hellesylt is a most interesting trip; but the hand camera hardly comes in, as the valley is very narrow and the mountains high. At Hellesylt we take steamer for Merok on the Geiranger fjord. Of course we have all seen the striking views of Geiranger fjord, with its perpendicular cliffs, over which trickle several tiny streams, called "The Seven Sisters." For the benefit of those who come a long way to see these seven sisters, I will state that four of them have either died, got married or run away, as only three puny-looking members of that family remain to disappoint the passing tourist. The camerist should make his exposures in going toward Merok, as the view is better in that direction, provided the light is right. If time for a stay is provided for, excursion in row-boat over the fjord should be made, and if the weather is fine you are likely to secure a large number of most interesting negatives.

The steamer next takes us to Soholt; there we again employ our old friend, the "stolkjarre," to take us to Vestnaes—fine landscape views on the way. At Vestnaes we again take steamer, gliding over the charming Molde fjord, and later on the Romsdals fjord to Veblungsnaes. A trip in conveyance up the famous Romsdal as far as Stuefloten will amply repay any one having two days to spare and a camera suitable for different kinds of work. Leaving Veblungsnaes, a few hours' sail brings us to the pretty little city of Molde, where a few days can be profitably spent, as many short excursions can be made from here (dark room accommodations at Alexandra Hotel).

Just outside of the town is situated the leper hospital. Ascertaining that visitors were admitted, I made a two hours' visit to the establishment, going through the different wards and interviewing a great number of the patients, some of whom had reached the most advanced stage of the disease. After a great deal of trouble, and with the assistance of the superintendent, I succeeded in inducing one of the lepers to stand for his picture, they having a great dislike to being photographed. Of course it has been over and over again proven in Norway that leprosy *is not* contagious; hence there is no risk in visiting this interesting establishment. The fact that the large staff of servants and nurses of the hospital consists of strong and healthy Norwegian girls is the best proof of the non-contagious character of this horrible disease.

The trip from Molde to Throndhjem by steamer, which is quite uninteresting, brought the journey, as far as inland and fjord scenery was concerned, to a close, after thirty days of hard traveling, thirteen of which were spent on the high roads in a "stolkjarre," 322 English miles having been covered in the latter manner of traveling. A little wrinkle on going over the different fjords in steamers may find its place here. Man and wife can travel on all fjord steamers for a fare and a half. This has led to numerous amazing cases of "pairing off" temporarily, among tourists doing the fjords, for the purpose of economy.

The city of Throndhjem offers but little of interest to the amateur photographer, but it is here one generally starts out on the North Cape trip. The writer, like so many others, made the error of making the trip to North Cape on one of the first-class tourist steamers, accomplishing the entire trip in eight days. The elegance of the steamers, the "swell" company, the punctuality of departure and arrival, the few and short stoppages, the omission to stop at many of the most interesting places, and the very limited opportunities (five nights only) to see the midnight sun are the most prominent features of this excursion. The somewhat slower but well-fitted-up mail steamers should in every case be preferred by the tourist having ample time at his disposal, and particularly by the photographer. You see far more of the beautiful scenery and of the life in Nordland than on a tourists' steamer ; you can stay over at numerous of the interesting landings on the way, and, last but not least, the expense is only about two-thirds of that of a tourist steamer. Any one with a large camera, desiring to do something more than snap-shot work, should by all means choose the mail steamers, as one of the chief objects of the trip is to see the midnight sun ; all you have to do, in case of unfavorable weather, is to get off at some landing and wait until her majesty appears, taking the next steamer in continuing the journey.

I will not tire the reader with a detailed description of the North Cape trip, which has been so often described by more able writers, but will chiefly confine myself to a few hints for the benefit of "the man with a camera." The tourist steamers make a few landings of short durations. Try always, if possible, to get into the first boat going ashore, as it gives you a great deal more time on *terra firma* for photographic work. At Torghatten, the mountain with a hole in it, you will find it hardly worth while to lug your camera up the rough path to the "hole," a climb of about five hundred feet. Make your exposure from the steamer or the place of landing. On arriving at the Lap settlement, make for the herd of reindeer at once, then for the Laps. Pick out your subjects without delay and give them a trifle "to stand," if necessary—say, ten to twenty-five cents, as the time is valuable; for as soon as the professional photographer present has taken the conventional group of passengers and Laps, the latter and their reindeer begin to scatter at once, this being a prearranged little game of the aforesaid professional, in order to prevent amateur competition. At Tromso and Hammerfest you find many choice subjects for the hand camera, if time and weather permit.

The North Cape is a source of disappointment to many—at least it was to me, particularly as the top could not be reached on account of the heavy snow covering the path. This was on June 26th. Made a time exposure nine hundred feet above the bay at midnight in a drizzling rain, and was surprised to get a good negative. Be sure and try and catch "the horn" on rounding into the bay, as it is very picturesque. Both ways—going and coming—on the North Cape trip fine views abound. Those among the Lofoten Islands on going, and Raftsand in coming back, are the finest. At Svartisen glacier you must hurry along with your camera, as the stoppage is short, and the distance to the glacier is longer than it appears to be; many minor hints may be given, but the above may suffice.

Our steamer carried eighty passengers, of which fifty-four were Americans, and among the latter fifteen carried kodaks, and two had hand cameras and plates. Strange to say, not a single camera was carried by any of the passengers except the Americans.

The delight experienced during the trip at the continuous surprises of ever-changing and grand scenery was only equaled by the disappointment of not being able to tarry longer in this interesting region. Short as was this eight-day trip through the Nordland of Norway, yet it was an event never to be forgotten, even if, from a photographic point of view, the opportunities were not all that might have been desired.

My journey ended at Throndhjem, and there consequently ends my narration of "Through Norway with a Camera."

DRESDEN, *January*, 1892.

THE RATIONAL DEVELOPMENT OF HAND-CAMERA EXPOSURES.

I found also that however accurate one's eyesight may be, it is very difficult to get the skyline horizontal on the plate without a spirit-level, and in future I shall always take one, or preferably have one sunk into the camera top.—*Locke Macdona in the British Journal of Photography, August 22d, 1890.*

SOCIETY OF AMATEUR PHOTOGRAPHER ANNOUNCEMENTS.—The recording secretary informs us that there will be on March 25th an *exhibition of the Chicago and St. Louis lantern-slides*; April 2d, the third *smoking concert;* April 5th, Dr. Leo Backeland will demonstrate the *carbon process;* April 12th will be the *annual meeting*, at which President James H. Stebbins, Jr., will lecture on *dry plates;* April 22d, Mr. Bradford will give an illustrated lecture on "A Summer in the Arctic Regions"; April 29th, the regular exhibition of *lantern-slides—the Cincinnati and New Orleans Clubs;* May 10th, "Photomechanical Processes," by Prof. Charles F. Chandler, of Columbia College.

Amateur Photography at the World's Fair.

BY ROBERT E. M. BAIN.

THE matter of an exhibition of photographs to be made by the amateur photographers of the country at the World's Fair seems thus far to have received very little attention. This is more noticeable in view of the large amount of very artistic work produced in the different journals and at the annual exhibitions of the societies and art clubs of our principal cities. Such an exhibition would attract widespread attention, and would arouse the interest of visitors, both foreign and native, in the artistic natural features of our country. It would only be necessary for the clubs or societies of the large cities to take the matter in hand and announce their willingness to handle and arrange the display from their States, and the work would come in without further invitation. It is not expected that the clubs would necessarily co-operate to form a general exhibit, but the clubs of each State could join hands with the State Commissioners to the World's Fair, and thus form an artistic addition to the States' display. With a view to unanimity it would be well for the clubs now composing the "Interchange Societies" to take the initiative, and, after maturing plans, to issue a general circular letter through the various journals, calling upon the amateurs to correspond with the local organization, which could then forward the necessary information as to size and character of print, and, if it is desirable to have them mounted, the size and kind of card to be used. The limit of time could be set and the contributors notified that the pictures may be received and selected by a competent committee appointed for the purpose, before handing them over to the Fair Commissioners. The entire exhibition could be made from negatives taken during the past one or two years, of local scenery and objects of interest in the neighborhood of the photographer, thus entailing very little expense other than for albumen paper and card mounts. In the large cities the clubs could divide the work among the members and unattached amateurs desiring to contribute, and thus an exhibition consisting of one hundred or more pictures would be but a light burden on any of the individual contributors. A display of this kind by each State would be of great interest not only to foreign visitors, but to those of our own country, who would in this way become practically acquainted with much that is beautiful and interesting on our Continent. The time is short, and, if the plan is to be carried out, the work must be done during the coming season. I therefore call upon the amateur fraternity to take up the idea at once. Let the officers of the clubs consult with the various State Commissioners and arrange the matter, so that early in the Spring the different photographic and sporting journals can announce the details, and the work may be in the hands of the Commissioners a year hence.

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Editorial Comment.

Our Illustration.—In asking Mr. John E. Dumont for a few facts about his picture of "To-Morrow will be Friday," which we present with this number, we obtain from him his ideas, expressed as follows:

"It is much easier for me to make pictures than it is to write about them.

I have no interest in the scientific side of photography only in so far as it helps me to make a picture; the camera is to me simply a means to an end. I am only interested in the art side, and in making a picture I try as much as possible to avoid those points that the professional photographer considers of absolute importance.

No professional photographer considers a picture worth looking at unless every object, however unimportant, is of pin-point sharpness, unless every shadow is transparent. Every line must be retouched; every feature must be lighted just so, or it is a failure. Yet a painter never looks at those points; he is after an effect, and if to get it it is necessary to put every object out of focus, he does it, and that is the end of it. If they want to put one face with its back towards the sun, they do that also, and no one questions their right. Then why should not the man who uses the lens instead of the brush have the same privilege? Surely, I can see none.

In making this picture I have tried to photograph it so as to get the same effect that an artist would who used canvas and paints. The figure is bold and sharp because that is the principal object, the background is indistinct and hazy because that is simply an accessory; were the trees in the distance sharp as the lens could make them, they would lead the eye from the motive of the picture.

"To-Morrow will be Friday" was made late one October afternoon, and is one of six pictures that I have made of this same model—who, by the way, is one of the best that I have ever worked from, as he enters into the spirit of the picture, and unless the model appreciates the idea that is to be carried out, it is impossible to make a successful genre picture with a camera, as, unlike the artist with the brush, no change can be made.

I expect that the day will come when photography will be classed as an art; but if that day ever should come, it will be because the amateur has departed from the rules laid down in the photograph gallery, which rules have been followed without change ever since the days of Daguerre."

The Eastman Company.—While in Rochester our Mr. Beach had the pleasure of being personally shown over their celebrated factory by Mr. Eastman, and was surprised at its extent and complete equipment. Since the new factory was established the old one has been utilized to better advantage, a large part of the ground floor being given up to the executive offices, shipping department, and bromide paper manufacture; though this, we were told, would soon be removed to the new spacious factory. We saw the means for testing the kodak lenses, the enlarging apparatus, having huge shallow tanks conveniently near, filled with hypo, water, etc. One-half of this room was devoted to stripping films with separate tanks and sinks. In the large, long room, where the kodak negatives are developed, are arranged on each side rows of sinks having electric lights inclosed in a cylinder of orange-colored paper of double thickness, which diffuses the light equally. In the centre of the front side of the cylinder one thickness of paper is cut out two inches in diameter, leaving a bright-yellow spot of light, before which the developed negatives are quickly passed to determine their density. We thought this was an excellent idea, since the mass of deeper orange light overcame what little light might come through this brighter spot.

The temperature of the room is kept uniform, as is also that of the solutions. The top floor of the establishment is used exclusively for printing and mounting, and its roof resembles a series of small hot-houses placed side by side, under which are long, wide shelves holding hundreds of printing frames. The arrangements are very convenient, and the employees are mostly skilled girls. One room is used exclusively for toning the prints.

We were shown models of the new cheaper kodaks, which are quite ingenious and simple, and are likely to extend largely the already big business which this company is doing.

From our observations of the care and system employed, it seemed impossible for any mistakes to be made or carelessness to creep in. We feel it due to the company to say, that the criticisms mentioned in the "Society News" in our November number cannot be fully justified, and while we reported what came to us, there was no intention or wish to prevent others from enjoying and using the privileges afforded by it.

Mr. Eastman has shown remarkable skill and foresight, for so young a man, in providing the public with all the necessities for easy photography, and has further demonstrated that it is possible to do on a large scale what was formerly thought impossible. Praise is due to him for starting with a high standard and adhering to it.

Packing Plates.—At the January technical meeting of the Photographic Society of Philadelphia the subject of the best methods of storing plates, before and after exposure, was discussed. One party advocated storing the plates' film sides in contact with each other, for the reason that the air was kept from acting on the film and spoiling it—a very good argument. Our experience has been, with plates packed in this way for three years, that they were just as fresh and good as when first made. We always had faith in using such plates that we should obtain perfect negatives. The plates, being clamped together in a package, do not have a chance to move appreciably and are not easily damaged; besides this, the emulsion is coated on the so-called hollow side of the plate, which lessens in a degree the close contact in the centre.

The sum of experience goes to show that this method of packing is the safest and surest, and it has been surprising to us that manufacturers do do not adopt the method more generally. Possibly because separators were originally used is the reason they are afraid to change.

To prevent the edges of the plate from being injured, the package should first be wrapped with waxed paper, then with the black paper. Some makers put a thin sheet of purely vegetable paper between the plates; but these sometimes stick to the plate and get into the holder with it, thus acting to the unsuspecting operator as a veil when the exposure is made.

Another party at the meeting preferred to separate the plates with post-office paper (a yellow paper), similar to that used several years ago. Our experience with such is that the pressure of the plates, when laid horizontally above the other, is to impress upon the surface the peculiar mottled appearance in the paper, which develops out quite perceptibly with the image. The surest way is to have nothing between. An expert amateur put his 8 x 10 plates in pairs with the film sides in contact, fastening them together with gummed paper at the four corners, and carried them in this way, before exposure, to a distant, foreign country; exposed and brought back, put up in the same manner. When he developed, he obtained faultless negatives.

The film is so hard there is very little danger from scratching. We commend this plan to those contemplating carrying a stock of specially made plates.

Teleo, or Long Range, Photography.—One of the newest branches in photography is the construction of new lenses of moderately short focus for the photographing accurately objects at a long range. The lenses can be used on cameras with about double the draw of the ordinary length, which avoids the use of the telescope. To be sure, the field of view is correspondingly narrow, but the utility of fixing images of distant objects on the sensitive plate as distinct as observed with the eye in the telescope is certain to be taken advantage of, not only by the military man, but by the amateur; for there are frequently found picturesque places so rugged as to be inaccessible for ordinary photography, but which can be obtained at a distance. In our April number we hope to give illustrations in this line. Mr. Dallmeyer and Dr. Miethe have invented the lenses referred to. They have made quite a stir in England.

Photography at the World's Fair.—We call attention to Mr. Bain's article on another page on this subject. While we quite agree with him that it would be interesting to have a separate exhibit in each State, we must say, however, a collective exhibit of all the clubs and societies, arranged together in one suitably lighted gallery, would be more artistic and attractive, and we believe by a united effort among the clubs this could be brought about and be made to be quite a feature. The first thing to do is to find out how the World's Fair authorities are going to look at this subject.

The progress we have made so far in endeavoring to secure free photography on the grounds is not encouraging; but perhaps we may be mistaken in supposing that this one committee will have all the say. Possibly the commission itself may be able to direct General Davis and the committees to deal more liberally with amateurs than now seems to be the case. Our Mr. Beach asked the committee whether any right would be given to a person who wished to photograph but would agree not to sell, and, under date of February 17th, received the following formal communication:

F. C. BEACH, ESQ., Corresponding Secretary, Society of Amateur Photographers.

DEAR SIR: In reply to your communication of February 8th, requesting information regarding privileges which will be granted amateur photographers, I have to inform you that it is the sense of this committee that in order to make satisfactory arrangements and secure the proper operation of photographic concessions, the grantees will have to be protected; and it is therefore the opinion at present that permission will not be given to other than grantees of such concessions to take photographs upon the grounds.

Very respectfully,

SAMUEL A. CRAWFORD,

Secretary Ways and Means Committee of the World's Columbian Exposition.

The concessions alluded to mean that to secure the privilege to photograph, the applicant must say that he proposes to sell photographs, books, etc., and must be backed by two or three sureties acceptable to the committee. If such a roundabout, red-tape method is to be adopted, perhaps the clubs can join together and hire some one in Chicago to act as surety for any member who may wish to photograph.

Apparently no one person is to have the right to make and sell photographs at the grounds. If such is the case, it is not fair to suppose that a party who merely wishes to photograph, and agrees not to sell his work on the grounds, will interfere with others who have the right to sell.

We hope to see broader views prevail, and request every club in sympathy with this movement to send a petition to the commissioner representing their State, asking that the rules bearing on this subject be amended or enlarged.

The Boston Exhibition.—Amateurs desirous of contributing work to this exhibition, to be held in May, should see the rules on page 123.

It is expected it will be a very fine exhibition. Exhibits must be in Boston by April 27.

THE DISCOVERER OF THE GELATINO-BROMIDE PROCESS.

It has been proposed through the pages of the *British Journal of Photography* that upon the advent of the twenty-first birthday, in 1892, of the gelatino-bromide dry-plate process in photography a substantial and fitting testimonial should be offered to Dr. R. L. Maddox, the inventor, now a veteran invalid, who has derived no pecuniary advantage from his valuable discovery, which has so largely advanced the progress of photography in all its branches and in every country.

For this purpose a committee has been formed in London, in order to carry out the scheme in the United Kingdom of Great Britain, consisting of the following gentlemen: Mr. James Glaisher, F. R. S., president of the Photographic Society of Great Britain, chairman; Captain W. DeW. Abney, C. B., F. R. S., R. E.; Messrs. A. H. Harman, F. York and Sir H. Trueman Wood, assisted by others, as the executive. For the furtherance of this project, *internationally*, a Foreign Committee has been formed in Southampton of the following gentlemen: James Lemon, Esq., Mayor of Southampton; Colonel Sir Charles W. Wilson, K. C. B., F. R. S., R. E., Director of the Ordnance Survey, Southampton; Major-General I. Innis-Gibbs; Captain Robert Evans, R. N. In order that those in other countries who have benefited by the use of the above discovery may contribute, you are solicited by the Foreign Committee to aid by your kind and welcome assistance.

CHARLES J. SHARP, Solicitor,
71 French street, Southampton. Honorary Secretary.

P. S.—Subscriptions can be forwarded to the Southampton branch of the National and Provincial Bank of England, by check or bank draft, crossed "Maddox Fund," or by post-office order; but, if preferred, they can be addressed direct to the secretary, and will be acknowledged by him.

Society News.

[Under this head we propose to publish all society matters of scientific or technical value, which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

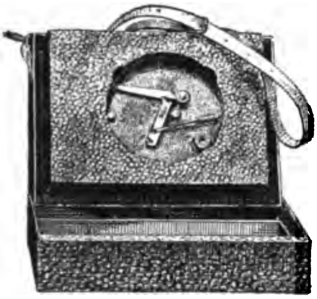
THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—*Regular meeting Tuesday Evening, February 9th.*—The meeting was called to order at 8.30. President James H. Stebbins in the chair. After making a few announcements concerning future meetings and exhibitions, President Stebbins presented the medals awarded by the American Institute to the members entitled to them. He then read his first paper "On the Chemistry of Photography" (to be followed by others on the same subject), and explained by experiments how light curiously affected certain chemicals. He proposed to treat the subject from the scientific point of view, and held that the action of light is photo-chemical, because it can be demonstrated that change in some chemicals is brought about by the action of light. He confined his first series of experiments to the salts of iron, and made an experiment with a sheet of paper coated with a ferric chloride which when exposed to the light changed to ferrous chloride. If it is immersed in a ferri cyanide solution, it is changed to a blue color—such paper is called Kallitype No. 1. Kallitype No. 2 paper is the same iron compound reduced on a nitrate of silver bath.

He remarked that Draper, in 1857, used paper coated with ferric oxalate, because it was so sensitive. The reducing action of light does not always mean a giving up of oxygen. He tried several experiments showing the peculiar action of light on compounds, and explained the chemical transformation of bi-chloride of mercury when used as an intensifier.

In his next lecture he will treat on the action of light on silver compounds. He explained the various chemical changes in full, giving diagrams of the chemical symbols.

When he concluded, Mr. Burton presented an amendment to the constitution, stating that it had been approved by the Board of Directors, which provided for the advancing of the annual dues of active members from $16.00 to $20.00 per year, payable semi-annually instead of annually, as at present. It will be acted upon at the March meeting.

Mr. F. C. Beach exhibited a new kind of transparency printed by sunlight, in the usual printing frame. It is a sheet of celluloid, has a ground-glass surface on one side and a gelatine chloride emulsion coated on the other. A very delicate image is produced which can be seen through the back of the film as the printing proceeds. It tones the same as Omega paper, and is susceptible of taking any desired color ; there is no staining of the film, or guess-work, as is sometimes the case with the developed image. The printing has to be carried on somewhat darker than is ordinarily required. The capabilities of the film for window transparencies, lamp shades, etc., were pointed out. The sample exhibited was made by Mr. Geo. H. Chase, of Newport, R. I. Mr. Beach also showed the "Takiv Camera," a combination hand and tripod camera, made by Mr. James T. Walker, of Palmyra, N. Y., which is cheaply constructed of a black paper box, holding a plate 6½x4¼. There is a cross-division of wood on the inside, dividing the plate up into four divisions, which enables four small pictures to be made on one plate. The lens is mounted on a rotating circular board, having notches in the periphery, and a rotating shutter, operated by a rubber band, capable of time and instantaneous movements, is also provided. The shutter is on the outside of the board.



THE TAKIV CAMERA.

After an exposure has been made, the slide in the plate-holder is pushed in, and the circular lens-board revolved one quarter of the circle; then the shutter is set, and another exposure can be made. By repeating the same operation, four exposures may be made on one plate; then, by turning the plate-holder around, another plate, capable of four more exposures, is ready. Thus in one plate-holder there is material enough for eight pictures. The plate-holder is clamped to the back of the box by a sort of hinged cover, which has a rectangular aperture in the hinged part just large enough to withdraw the slide through, but covers the end of the other slide enough to prevent the same from being accidentally pulled out. The apparatus is quite simple and effective. Miss Catharine Weed Barnes exhibited a new Zeiss Anastigmatic Lens and examples of work made with it, which were excellent in every respect. She found the lens was very rapid, and possessed with full aperture remarkable covering powers.

Mr. Beach read a communication from the Director General Davis, in regard to the right of amateurs and others to photograph at the World's Fair, also a letter relative to a competitive photograph exhibition to be held at Richfield Springs, and presented the rules of the "Boston Camera Club" pertaining to the fifth annual joint exhibition which is to take place in Boston next May. He suggested that a special committee be appointed to solicit exhibits from members of the society. Mr. F. Vilmar remarked that he had received a notice of the exhibition, and wished to know whether the society was obligated to send exhibits. If so, he should advocate the cancellation of any such agreement. Mr. Beach stated that the society, as a whole, was not obliged to send an exhibit, but it was tacitly understood between the three organizations that each would aid the other, by sending exhibits of their individual members when exhibitions were held in their respective cities. He referred Mr. Vilmar to the report of the Committee of Arrangements as to the present agreement between the three societies in regard to the holding of joint exhibitions. The Recording Secretary expressed himself as decidedly opposed to these joint exhibitions, and objected to the appointment of a committee to solicit exhibits from members, for the reason, he remarked, that very few members of the Boston Club sent exhibits here to the exhibition last Spring, and that it was very unbecoming for this society now to secure exhibits in aid of their exhibition. Miss C. W. Barnes said she had just returned from Philadelphia, and found the club there much interested in the Boston Exhibition. She also knew of many members of the New York Society who intended to send work, and considered that it would show great rudeness if the society declined to take proper action in the matter. Mr. Burton disclaimed any thought of rudeness, but repeated he was opposed to official recognition of the Boston Exhibition by the New York Society.

Messrs. Murray and Simpson also spoke on the subject, and favored sending exhibits, but as no motion appointing a committee to receive such was before the meeting, no positive action was taken.

Thursday, February 11th.—Auction Sale.—The second annual auction sale of old and second-hand apparatus and materials took place at 8 o'clock in the evening, and was directed by the Recording Secretary, who assumed very creditably the rôle of auctioneer. There was a large attendance and some spirited bidding on a few first-class hand cameras. Some of these, fitted with lenses of well-known makers, brought a trifle over half their original cost. Inspection of the things was allowed a week beforehand, and a catalogue was printed. The society reserved 10 per cent. commission on the sales.

It was not far from midnight when the sale concluded, and a gross result of something over $700 was realized, making the auction more successful than last year.

Friday Evening, February 12th.—Special Exhibitions of Lantern Slides.—The third special exhibition of the season represented the work of Mr. Wm. B. Post, illustrating Japan and the Japanese, made by him during the Summer of 1891. They were taken on the great or main island of Japan, "Nippon." He used films mostly with considerable success, always testing the light by a special exposure, in order that the rest of his work might be properly timed. In this way he made very few errors. He simply made the trip for his health and recreation, and did not extend his travels further than this one island. Mr. Wm. M. Murray had studied up the subject, and described the slides very intelligently and acceptably. The exhibition opened with two views on the Pacific ocean and along the beach at Monterey.

The first view in Japan was on the "canal near Kanagawa." Then followed many of much interest, including a beautiful "village stream," "women washing clothes," portraits of a number of handsome Japanese girls, a glimpse of the Yokohama harbor, the peculiar bridges, the foreign quarter just outside the city of Yokohama, the views of the queer boats and junks, several pictures of the streets, the street musicians, Japanese children, a fine view of the Yaami Hotel at Kyoto, kept by a Japanese in European style; Japanese tea-houses, rice-field girls, and of the rice-fields; a good picture of a Japanese crowd entitled "Watching for the Mikado's Son;" fine views of the "Stone Temple Lanterns;" of "Shipping at Kobe;" Japanese soldiers; their house-boats and methods of fishing; "Fu-ji-ya Hotel at Miyanoshita," said to be the finest in Japan. Views in Osaka, which was destroyed one month after he left the place by a severe earthquake, were interesting. "A country farm house" was a very simple affair; a bird's-eye view of Yokohama was exceedingly good. Bamboo foliage near Kyoto was attractive; the Pagoda in the Gifu province, destroyed by the earthquake, was noteworthy. Views of Japanese flowers, of temple courts, and of a canal and bridge, designed and built under the supervision of a Japanese engineer, were all very characteristic of Mr. Post's careful work. The mode of transportation by the "Djourikisha," with men for horses, was shown. A view of toward the end of a waterfall, near a tea-house located on the side of a mountain, was very beautiful, full of fine detail and evenly lighted. The exhibition closed with a few specially colored Japanese slides which he had purchased while in Japan, and concluding with a picture of Mr. Post, himself dressed in the native costume. The remarkable success Mr. Post had in securing so many excellent negatives and his well-known abilities as a slide-maker made it possible for him to entertain the society in a way that was most instructive and useful. He had carefully studied the matting of his slides in such a manner as to fully bring out their artistic qualities. The slides were made by reduction in the camera on slow plates and developed with the hydroquinone developer.

He had a large and appreciative audience, and was given a hearty vote of thanks. The success of these distinctive one man's exhibitions is assured, and as each has a special individual characteristic, much may be learned by seeing several. Besides this, the latest talent in the society is brought out for the enjoyment and improvement of the whole. No member of the society has worked more faithfully than Mr. Post with a view toward raising the artistic and technical standard in lantern-slide work, and he is to be congratulated on the success of his first exhibition.

Friday Evening, February 26th.—Regular Exhibition of Lantern Slides.—The entertainment provided was the interchange set of slides furnished by the "Buffalo Camera Club," the "Detroit Lantern Club," and a few members of the society. Mr. Wm. M. Murray presided, and explained the views as they appeared on the screen. As a whole, the set was fairly good, but not equal to what can be done. The pictures in the Detroit set were made by two or three members of the club. Those that were especially interesting were entitled "Algerian Beggars," "Pine Lake," "Wild Rice," "Boat House, Belle Isle Park," a few curious photomicrograph slides, "A Circus Procession," "Block House at Fort Mackinac," "Sugar Loaf" at Mackinac, "A Dew-covered Spider's Web," "Grand Army Processions," "A Street-view in Detroit," "The Exposition Grounds" and "Retribution" (two mice caught in a spring-trap). The spider-web was very delicate and remarkable.

In the Buffalo club's set were views of Niagara, of Buffalo Harbor, propellers, canal-boats, etc. Others, entitled "A Birch Bark," "Limited" (two men in a birch canoe); "Entertaining a Visitor in China" (a clever bit of animal composition); in Buttermilk Gorge, Ithaca, N. Y., "Ready for Thanksgiving Day," "A Woodland Path," some of the historical churches, "A Pilot in a Small Boat off Sandy Hook in a Gale;" a few views in England, one of the "Durham Cathedral;" "Coach Team" (pair of iron-gray horses); the old "Mission Cathedral at St. Augustine," and "Jackson's Falls, N. H."; were all novel and interesting. The Buffalo set appeared to be the better of the two. The number sent by the two clubs was 100. Then followed several pretty road views of "Ferry Falls," by Mr. A. E. Churchill, in the Schawangunk mountains; two from Kodak negatives, taken in Norway, by Mr. W. R. Bunker; ten excellent slides, by Mr. W. S. Post, of scenery in the Yosemite Valley and Southern California and the Yosemite, and of Peacocks in Central Park; ten slides by Mr. Chas. H. Davis, consisting mostly of portraits and figure studies, concluding with a few slides of figures by Miss Emilie V. Clarkson, good in tone, artistic and interesting. The novelty of accompanying a few lines of poetry with each picture was tried by Miss Clarkson, to show what the picture was designed to illustrate; but the effect was somewhat spoiled by the reading of the lines before the picture appeared. Some of it did not seem to be quite appropriate. An interested audience was present, and many inspected the rooms of the society at the close of the exhibition.

Saturday Evening, February 27th.—Second Annual Dinner.—The second annual dinner of the society took place at the Arena Hotel, 41 West Thirty-first street, and was quite successful. About thirty covers were spread. James H. Stebbins presided, and made an interesting address on "Advancement of Photography in America." C. C. Roumage acted as toast-master. The following toasts were responded to: "Amateur Photography," Paul U. L. Thiery, vice-president of the Newark Camera Club; "Foreign Photography," Alfred Stieglitz; "The Social Side of Photography," T. J. Burton.

The others present were W. H. Drew, W. F. Hapgood, L. B. Schram, W. B. Post, H. Schoen, R. L. Nevins, S. L. Warrin, E. Warrin, L. V. Chardon, H. S. Cozzens, R. L. Bracklow, Paul A. Meyrowitz, Dr. M. B. Feeney, A. P. Schoen, J. H. Downing, F. C. Elgar, F. Vilmar, James Spies and Dr. A. H. Elliott, and A. J. Thomas, President of the Hoboken Camera Club.

PHOTOGRAPHIC SECTION OF THE AMERICAN INSTITUTE.—At the rooms of the American Institute, on Tuesday evening, February 2, a most interesting exhibition of lantern-slides took place, with Mr. C. Van Brunt as lecturer. The slides were by the following contributors: Miss Catharine Weed Barnes, Miss E. Clarkson, F. C. Beach, Alfred Stieglitz, Fred Ruppert, C. C. Roumage and A. L. Simpson, the latter exhibiting a series of slides portraying the "New York Fire Department and its Work," which were capital in every respect. Miss Barnes' exhibit showed the usual care and skill, with the finesse of treatment which characterizes all her work. At the conclusion of this portion of the evening, and while the audience was still enthused with the beauty of the pictures they had seen, the question was propounded, "Why is photography not an art?" and any artist in the audience was invited to step upon the platform and disprove its right to that title. But none had the temerity.

A vote of thanks was passed to the Society of Amateur Photographers and its members for their kindness in loaning the slides.

On February 18th the Section held its annual dinner at Clark's, No. 22 West Twenty-third street. It was well attended, and addresses were made by H. J. Newton, W. I. Adams, Dr. Chas. Ehrmann, Cornelius Van Brunt, W. E. Partridge and others.

REMARKS OF MR. W. E. PARTRIDGE ON ARISTOTYPE PAPER.

Mr. President and Gentlemen: I suppose that the subject was selected because I am peculiarly sore on printing and printing papers. I belong to the young corps of amateurs, but I am the oldest of them. I do not know of anybody that commenced as soon as I did with dry-plates who bought his gelatine dry-plates. They were not in the New York market generally when I commenced. The first thing I did was to get Mr. Henry T. Anthony to make a large album for me. I put in it samples of almost everything I did. Some of those samples now are about twelve years old. Some of my bromides lasted for eight years in beautiful condition, and then, in the course of eight to ten months, the image was obliterated entirely. Then I naturally tried other processes of printing. In fact, my first process was the one I believe Hershel invented—blue prints—and with the exception of some platinums, they are the only prints that have stood the test of time from the beginning to now. All of the albumen silver prints, with a few curious exceptions, have faded or begun to fade. I have one by Carlo Ponti, of Florence, which does not show any sign of discoloration, but several others made by him, which after six years in the album were perfect, have begun to discolor within a few months. Now, among my silver prints I have had different batches washed anywhere from one to forty-eight hours, and it has not made any difference in their permanence. They have gone in at the edges, turned yellow, lost their high-lights and their beauty. I have also had a grudge against them all because, no matter who makes them, no matter where they come from, washed two hours or twenty-four, the whites are far from being what a white in a picture should be. They are very deeply tinted when compared with white paper, and in that respect none of the latter processes have equaled the blue print; the purity of the whites there is absolute—it is white paper. Recently a number of new things have come up, and I have tried them carefully, among others the collodion emulsion, and some of the prints promised to stand. I coated the papers myself, and had strong hopes, but unfortunately a year's experience has disappointed me. The toning processes have not suited me because of this deep tinting of the high lights; they did not give the purity of artistic effect that ought to be. Printing deeply to get good tones so reduces all the high lights that the beauty of a picture is gone when you are ready to mount it, and, after it is mounted, proceeds to actual discoloration. I even went so far at one time, as a matter of spite, as to mount a half-dozen of albumen prints with common flour paste, preserved with bichloride of mercury, and I do not think they are fading any worse than some of the others that were done according to the rules and regulations. I knew what I was doing, and I expected to see them fade in at least six weeks. They are now five years old, and they seem to be holding their own very well.

When the American "Aristo" paper came out I was a great deal impressed with it, but, as Prof. Ehrmann was saying during the dinner, I found at first a great many troubles. There were "cussednesses," if you please. It would curl, sometimes it would peel, and when I attempted to make it myself, sometimes the emulsion would not flow and sometimes it blistered. After mounting it turned white in fuzzy spots. The use of a solution for making the prints stay flat was an unmitigated nuisance. Altogether, while the process promised well, there were so many disagreeable and unmanageable features about it as to make it too troublesome, for me at least. The other day I saw something in the way of manipulation that puts the whole process of using "Aristo" paper in an entirely new light. I think, perhaps, it may be new to some of you, as it has been but recently introduced. Theoretically, the "Aristo" paper should be permanent. In this respect it answers our requirements, for it is a collodio-chloride image in a collodion film. I think Mr. Newton will testify to the permanence of a silver image properly fixed and washed when carried in a collodion film. In our wet-plate negatives such an image has shown great permanence. The silver of the "Aristo" paper is carried by the film alone. It does not go beneath the surface into that heterogeneous substance we call paper, nor does it form an unstable albumen compound. It has an additional advantage of being in an extremely thin film. But the most important matter was to handle the paper so that it would not twist itself into solid rods or form tubes that could not be unrolled. Some one conceived the idea that the best way to get rid of the "cussedness" was not to allow it to begin. He proposed to keep the prints flat from the time they left the printing frame until they were finished, and the method was simply to wet the bottom of the tray and stick the prints down, and then stick others on top of these as if to make a pile for pasting. The quantity is not material; there may be one print or a hundred. The other day, while experimenting, I saw a gentleman put seven hundred prints in a tray thirty inches square. It might have been a thousand quite as readily. Just enough water was sprayed over the mass to keep them flat and in place.

The next point was, of course, to wash the free silver from them. The property of hot water to dissolve silver nitrate with great rapidity can here be employed, for neither the film nor the paper is injured by the heat. Water of the temperature of about one hundred and ten degrees Fahrenheit is employed, and is poured into one corner of the tray so as not to fall directly upon the prints. The quantity must be sufficient to nearly or quite cover them. No harm is done if there is a little more. The tray is rocked and the water penetrates all parts of the pile, even though the number of prints be as large as that I have mentioned. The tendency to curl makes the prints rise slightly, so that the water has practically free access to the mass. In less than five minutes the water becomes milky. Then the prints are pressed down with the hand, while the tray is inclined and is poured off. In the experiment I have mentioned the hot-water bath was continued for five minutes and then poured off. It was repeated five times, and in about twenty-five minutes the water ceased to show silver in any appreciable quantity. Seven hundred prints had gone through the washing process without further handling than that necessary to put them in the tray. It had not been necessary to touch a print during the washing, and there was no curling.

To one who has been accustomed to the methods of washing employed in large establishments, with the handling, the tearing and folding, which are almost unavoidable, that was a revelation. There were no long and bulky tanks. The ordinary tanks of the establishment seemed to have suddenly grown several times too large for the work on hand.

From the washing-tray the prints go to the toning-bath in the usual manner. Any bath will answer, but it should be so arranged as to give the desired tone in not less than six or eight minutes. Here I cannot speak with certainty, but I think that but half the quantity of gold needed for albumen prints is needed for a given number of the "Aristos." If this is the case it may be accounted for by the fact that the image is in a thin film and upon the very surface of the paper. And to this latter fact is due the weakness of the fixing-bath, which is one to twenty. The prints fix in about the usual time. The toning-bath is followed by a wash in cold water, made decidedly acid with acetic acid. After the washing, which should be with frequent changes of running water, the mounting should be done at once and without allowing the prints to dry. Drying is not a good thing to come in as an intermediate process, because, if the paper once has a chance to swell and curl, the film is not strong enough to bring the paper back, and all the unfortunate results of curling are sure to follow.

The resulting picture is in many ways eminently satisfactory to my artistic sense. In printing the image does not seem to have its high-lights so deeply tinted as is necessary with the ordinary albumen print. The high-lights of the finished picture may be made absolutely white paper. What this means may be seen by taking any photograph and comparing its highest light with a bit of white paper. The surface of the "Aristo" prints is brilliant even before burnishing. This is highly desirable, and this, in addition to the fact that the image is on the surface of paper, produces a result decidedly superior to the best albumen prints.

Many artists object to glaze, and say that pictures ought to have a matt surface. In this they are partly correct if the picture is large. But for a size of five-eighths and less the artist usually varnishes his picture and puts a glass over it. In photography we are right in following his example and giving our small pictures a glazed surface.

The "Aristo" paper has many advantages over any process with which I have so far experimented. The picture, before washing and toning, is sharper and clearer than is obtained in any other paper process. The high-lights are as white and clear as those of a fine blue print, while the details are like those of a glass positive. The surface obtained by burnishing is almost a glacé. Even when mounted without burnishing there is a high gloss, though not quite equal, perhaps, to burnished albumen paper.

Part of the advantages arise from the fact that the film, when applied, contains its proper quantity of silver. It does not come in contact with the paper, but is supported upon a separate and independent substratum. Lastly, the image is without a blur, because of the thinness of the film itself.

If there are no unforeseen drawbacks, this process is one which many of us have been looking for. If it is permanent, it is beyond all praise. Since the wet collodion image has proved itself permanent, and as this film bears to the paper the same relation which that did to the glass, I think, gentlemen, we have strong grounds for hoping for the best.

THE QUEENS COUNTY CAMERA CLUB, a new organization, came into existence at a meeting of Amateur Photographers, held Feb. 12th, at 192 Twelfth street, Long Island City. The officers elected for the ensuing year were: Thomas Cusack, president; T. Schonberg, vice-president; John Connery, secretary; Newland Van Riper, treasurer; John Clark, librarian; Edward Gidman, chairman of committee. Unanimous assent was accorded the president's statement of the constitution and objects of the society, which was as follows:

The membership of this club is, and in all likelihood shall continue to be, composed of busy workers who have few opportunities to indulge in foreign photographic travel, and whose most extended trips shall be confined perforce to legal holidays. Their days of out-door operations may be augmented, perhaps, in some instances, by hours of precious sunlight, which a few of our members may be tempted to deduct from those claimed by the occupants of the pulpit. We shall insist upon orderly behavior at all times, but the club will not undertake the task of settling the disputed question of Sunday observance. That, and similar affairs of conscience or convenience, are left for solution in the hands of individual members, who, to this extent, shall be a law unto themselves. Those who "compound for sins they are inclined to," shall try to do so without "damning those who have no mind to" participate in their particular form of recreation.

The aim of the society is, therefore, to utilize to the fullest possible extent the leisure hours of its members in the study and practice of amateur photography. It will create a centre where kindred spirits may come together to compare notes; it will afford the hitherto isolated amateurs of Queens County an opportunity to become acquainted, and thereby cultivate a spirit of fellowship, and it will enable one and all of us to share the many advantages of association and co-operation.

The intention of its promoters is that it shall possess some of the features of a free school of photography, without paid or professional teachers. The beginner shall have a recognized claim to advice and instruction on all ordinary questions from those having longer experience. The "little knowledge" gained by an amateur who "has been there" is not "a dangerous thing" to recommend, and, so far as it goes, will be of a practical kind. They will, no doubt, have paid for it already in spoiled plates and in the purchase of cheap "outfits," which, after the first week of new-fangled ecstasy, ceased to satisfy and are now obsolete. The new-comer should be able to start abreast with his instructor. The latter shall continue to learn something from the high-lights to be found in the well-equipped societies of New York and Brooklyn, and whose reputation is international; they shall get valuable hints from current photographic literature, and they shall "prove all things" in the light of their own actual experience and observation.

The negative advantages of association are equally positive. As every step of individual progress becomes common property, so in like manner the common failures, when investigated or frankly confessed, are not less edifying—they teach us what to avoid doing. Add to this the fact that most of us can *see* the failures of others much better than we can our own, and that we are able by about the same ratio to assign a cause and suggest *the* remedy. We do not, however, advocate the cause of failures for their own sake, but they *will* occur in the best-regulated society, and we may just as well turn them to profitable account. Let each one try for the highest attainable excellence in his *own* work, and if he does not always succeed as he would wish, he should be ready to give generous recognition to those who, from time to time, produce the best result. Rightly understood, every succeeding contest will be a stimulus in promoting further friendly emulation.

It will be admitted that the object of this club is in no sense mercenary, and in time our members hope to prove that their aspirations have not been wholly visionary. They do not propose to poach upon the preserves of the professional photographer; still less do they desire to swell the ranks of the dilettanti. But they shall try to become proficient practical amateurs, pursuing it as their favorite pastime and for the pleasure and gratification which it affords. To this end they shall not encourage the production of pictures made by proxy. Our productions may not always satisfy our ideals, but they shall be *bona fide* attempts in that direction, and the process will give increasing capacity for manipulation in all stages of the work.

We are quite aware of the merits of the hand camera, and appreciate the ingenuity displayed in recent improvements of that very convenient instrument by the various makers. It helps us to seize hold of fleeting objects by land and sea, and with it we can catch the kaleidoscopic aspects of human life in unstudied attitudes, free from mechanical restraint, and with a natural pose otherwise unattainable. But in all cases where it is possible we prefer a time exposure, and shall recommend a slow plate. We cannot *always* resist the temptation to "press the button," but we shall offer no inducement for outsiders to "do the rest."

NEW YORK CAMERA CLUB.—On February 8th the club was entertained by an exhibition of lantern-slides illustrating "The Windward Isles," by Mr. W. T. Wintringham. During the latter part of March the club holds its third annual exhibition, to be exclusively the work of members. The exhibition will be continued for ten days or two weeks.

The committee in charge is S. W. Bridgham, L. C. Ivory, J. L. Breese, William Herbert, H. J. Hardenbergh.

NEW BRITAIN CAMERA CLUB (New Britain, Conn.).—A meeting of amateur photographers was held Tuesday evening, February 23d, 1892, and an organization effected under the name of the New Britain Camera Club. Twenty-two members signed the constitution. It was voted to hold meetings regularly on the second and fourth Tuesdays of each month. The officers elected are: President, E. M. Hulbert; vice-president, Robert S. Brown; secretary and treasurer, G. C. Atwell. Board of Control: the regular officers and C. H. Norriss, John A. Blake, Albert F. Norton, John Gerard.

PHOTOGRAPHIC CLUB OF BALTIMORE CITY.—The regular monthly meeting was held February 2d. After the routine business was gone through with, Mr. W. B. Brown was introduced to the meeting, and gave a very interesting talk on "Pyro Development, and Mode of Preserving Pyro." He advanced some very novel ideas and plans, and spoke in a manner which indicated beyond all doubt that he was very familiar with the treatment and handling of pyro as a developer. A vote of thanks was extended to him, and a request that his paper be condensed and that the same be spread upon the minutes of the club, and that a copy of the same be sent to THE AMERICAN AMATEUR PHOTOGRAPHER for publication. February 3d, an exhibition of the slides of the Syracuse and Albany camera clubs was given to at least three hundred and fifty of our members and their friends. The slides altogether were very fine, and were appreciated so as to call forth much applause, particularly those entitled as follows: Of the Albany club: "Night-blooming Cereus," "One More Bite," "Codfishes Taking Bait," "Ah! There," "File-maker" and "Pond Lilies." Those of the Syracuse club: "Not Good Ham," "Off Noyes Beach," "A General View of Noyes Beach," "Clouds on Lake George," "Approach of Night."

A. S. MURRAY, *Corresponding Secretary.*

The corresponding secretary also writes, under date of March 2d: The proceedings and entertainments of our club have been interesting during the last month; besides, we have been adding to our facilities for work in many ways, both in our dark-room and in additions to our apparatus. We have also greatly improved the appearance of our reception room in adding to our collection of prints which adorn our walls many new, picturesque and faultless examples of photographic art. Much interest is manifested each Tuesday evening by attendance and attention shown to the photographic work which is done by the members on these occasions. On one of these evenings Mr. F. W. McAllister took pleasure in showing the more recent inventions of the Eastman Co. in the way of kodaks. Mr. H. Stockbrige, Jr., made exhibition of some very beautiful examples of transparencies made on plates, the emulsion of which and the coating of the same were the result of his own work. Mr. F. M. Clotworthy is making a great success of his processes of making wet-plate slides by artificial light, and has shown us many beautiful examples of this expertness. On February 15th Mr. A. S. Murray exhibited samples of the "Iota" specialties, viz., slides, prints, and transparencies on celluloid, which same are prepared and sold by Mr. George H. Chase, of Newport, R. I. We have admitted eight applicants for membership. On March 1st we had an exhibition of the slides of the Detroit and Buffalo clubs. The weather was very bad, but nevertheless we had a large attendance, and applause was bestowed especially on the following-named slides: "St. Clair Flats," "Pine Lake," "Orchard Lake," "Wasson Garden," "Detroit Exposition Building," "Niagara River," "A Birch Bark," "Snow in Buffalo Park," "Buffalo Elevator," "Coach Team"; but those which were most particularly admired were the "Spider's Web in Dew," "Pilot Boat in a Gale," and "Jackson's Falls."

BOSTON CAMERA CLUB.—At a regular meeting of the club, held on the evening of Monday, February 1st, Mrs. H. W. Pierce, Mr. Frederick S. Anable and Mr. Edgar Crocker were elected active members. Miss Sarah J. Eddy, of Providence, R. I., was elected an associate member, and Prof. Charles R. Cross, of the Massachusetts Institute of Technology, was elected an honorary member. By a unanimous vote the special committee in charge of the matter of procuring an electric arc-light enlarging apparatus, after making a very favorable report upon its cost and desirableness, was instructed to buy and install one at once; but as the committee expects some delay in procuring proper condensers—about fourteen inches in diameter—it may be another month before the light will be ready for use.

After the business meeting adjourned, Mr. Witherell, of the Entertainment Committee, took the chair and invited the members present to inspect a new hand-camera and tripod, made by an acquaintance of his in this city.

After explaining the essential features of both pieces, the members were invited to propound questions on any point connected with photography, and any member able to reply to them was expected to do so. Several members at once sprang a lot of photo conundrums, so that the subjects discussed during the next hour were, in part, spots in plates caused by silver in the emulsion; repairing of broken negatives with Canada balsam, etc.; the hypo-alum film on plates after fixation; the amount of restraint in hydroquinone by bromide; the fogging of plates in a camera focused on an object a short distance to one side of a window; the best wash or preventive of pyro-stains on the hands. After these subjects had been more or less discussed they were set aside in favor of a "developer" with which all could agree—the regular monthly meeting lunch.

WILBUR C. BROWN, *Secretary*.

RULES OF THE FIFTH ANNUAL JOINT EXHIBITION.—The fifth annual exhibition of the Photographic Society of Philadelphia, the Society of Amateur Photographers of New York, and the Boston Camera Club, under the auspices of the Boston Camera Club, is to be held at the galleries of the Boston Art Club, Boston, May 2 to May 11, 1892, inclusive. The following members compose the Committee of Arrangements: George M. Morgan, chairman; Henry N. Sweet, Wm. S. Briggs, Benjamin Kimball.

The following rules have been adopted: Rules—Medals and diplomas distributed among the various classes of work shall be awarded by a Board of Judges, chosen by the Committee of Arrangements. In making their selections the judges shall give due recognition to work in any of the various branches or processes of photography which may show unusual merit. The aid of experts may be called in when special information is necessary. The number of medals awarded shall be left to the discretion of the Board of Judges, dependent upon the amount of work of high merit exhibited, but shall not exceed twelve. The number of diplomas shall be entirely within the discretion of the Board of Judges. Awards may be made for an entire exhibit or for any part thereof. The judges may specially designate any particular picture for which a medal is given. All photographers are at liberty to compete. The judges will give preference, other things being equal, to work done entirely by exhibitor. The members of the Board of Judges shall not compete for awards, nor be connected in any way with the management of the exhibition. The decision of the Board of Judges shall be final. No picture which has once been exhibited in competition at a previous joint exhibition, held under the auspices of the Boston Camera Club, will be received for competition. No picture will be received "for exhibition only," unless by special consent of the Committee of Arrangements. No pictures which have taken prizes elsewhere shall be so designated until after the awards have been announced. All pictures, excepting those from foreign exhibitors, must be framed (with or without glass, at the option of the exhibitor).

Pictures from *foreign exhibitors* should be sent, carriage prepaid, to Boston Camera Club, care J. Herbert Seaverns. 5 East Indiana avenue, London, E. C., who will act as forwarding agent for the exhibition. They may be sent unmounted, and will be mounted for exhibition by the Committee of Arrangements, free of charge.

The Committee of Arrangements reserve the right to reject the whole or portions of any exhibit offered. Entries of all exhibits must be made *in duplicate*, on blanks issued by the Committee of Arrangements, giving, for catalogue purposes, etc., information on the following points: Number and size of frames. Amount of wall space required. Total number of pictures; subject or title of each. Lens and plate used for negative; if for sale, price. Name, address and society of exhibitor. The exhibitor's name and address, also a number corresponding to the descriptive number upon the entry form, shall be clearly written on the labels provided, which shall be attached to the *back* of each frame. When two or more prints are mounted in one frame, a designating letter shall be placed under the centre of each print, and all letters so placed shall appear in the entry form opposite the title of their respective pictures. All details as to maker, subject, etc., will appear in full in the catalogue, and none of this information should appear upon the frame or picture. No picture may be withdrawn before the close of the exhibition. All pictures must be sent at owner's risk, prepaid, and delivered to the Committee of Arrangements at the place by them indicated. The committee will not be responsible for any loss or damage that may occur to exhibits while in its charge, but will use all reasonable care to prevent such occurrences; and at the close of the exhibition will repack each exhibit and ship as directed by the exhibitor, other charges to be collected by the carrier of the exhibitor. Advertising in any form in connection with an exhibit is strictly prohibited. A charge shall be made for wall space at the rate of twenty-five cents per square foot (the minimum charge being one dollar) to all except members of the Photographic Society of Philadelphia, and the Society of Amateur Photographers of New York, Boston Camera Club and foreign exhibitors. The amount of charge for wall space must be inclosed with entry form to the Committee of Arrangements. If any of the pictures entered are not hung, a due proportion of the charges will be returned. A commission of 25 per cent. on all sales will be retained. Models of photographic apparatus will be received only by special arrangement with the committee. Lantern-slides must not exceed 3¼ inches high, and the diagonal line of the mat opening must not exceed 3¾ inches in length. Lantern-slides will only be eligible for competition and award when both the negatives and slides are the work of the exhibitor. Not less than six should be sent by any one exhibitor for competition. A list of the slides and particulars as to the process employed should be stated on the entry form.

SUGGESTIONS —*Lantern-Slides:* Special endeavor will be made by the Committee of Arrangements for the proper competition and exhibition of slides by the oxyhydrogen lantern during the exhibition. *Negatives:* Negatives and transparencies may be entered for exhibition, and should be suitably framed. *Photo-mechanical prints* and photographs colored by scientific or mechanical means will be admitted for exhibition, but not for competition, and should be limited in quantity. *Special Processes:* Any applicant submitting illustrations or specimens for exhibition made by a special process will be requested to furnish a description and particulars concerning the same. *Entry Forms:* Blank entry forms are inclosed, and blank labels to be placed on the back of frames will be furnished on application. *Reception of Exhibits:* All exhibits (including pictures, negatives, transparencies, lantern-slides, apparatus and appliances, etc.) must be delivered (carriage prepaid) on or before April 27th, 1892, to *Committee of Arrangements, Photographic Exhibition, Boston Art Club, corner of Dartmouth and Newbury streets, Boston, Mass.* *Correspondence:* All correspondence respecting the exhibition should be addressed to *Geo. M. Morgan, chairman Committee of Arrangements, 50 Bromfield street, Boston, Mass.* The club has also gotten up special rules for a competition for design of a diploma; a special medal is to be awarded for the same.

CAMERA CLUB OF HARTFORD.—The club held its fifth annual exhibition on February 23d. On February 9th, at the annual meeting, all of the old officers were re-elected, Dr. George L. Parmele gave a demonstration of plain paper. On February 16th a lantern exhibition of the slides of the Portland and Springfield clubs was given.

CALIFORNIA CAMERA CLUB.—On February 2d, the club held its regular meeting, and exhibited one hundred slides contributed by the New York Society of Amateur Photographers to the Conference Lantern-Slide Interchange. The report of the Nominating Committee was submitted. On February 16th, and again on February 18th, the slides of the Philadelphia and Joliet clubs and of the Brooklyn Academy of Photography were shown at the Metropolitan Temple hall to a very large audience—estimated to number 1,600 people—and were highly appreciated. On February 26th, at the same place, a special exhibition of Japanese pictures was given in aid of the sufferers of the Japanese earthquake.

THE AMERICAN PRIZE PRINT INTERCHANGE, proposed by the California Camera Club, is now composed of the following clubs: California Camera Club, Columbus Camera Club, Mattapan Camera Club, Hawaiian Camera Club, New York Camera Club, Buffalo Camera Club, The Camera Club of Hartford. Particulars can be had from T. P. Andrews, 333 Kearney street, San Francisco, Cal.

NEW ORLEANS CAMERA CLUB.—A meeting of the club was held on the evening of February 3d, President Bowman in the chair. Notice was given that Mr. T. W. Castleman had received honorable mention in the Bausch & Lomb prize contest held in Rochester, N. Y., on January 8th. Mr. Delery, of the membership committee, reported the elections of Messrs. G. W. Neville and S. P. Randall, and Mr. Streck. The lantern committee, reported that two successful exhibitions had been held in January.

Among the letters read was a very interesting one from Mrs. J. C. Kendall, of Norfolk, Ct., on "Multiple Exposures," which we shall be pleased to publish next month, with illustrations, for the benefit of our readers. It was said at the meeting that the proofs were splendid specimens of both skill and ingenuity. They are what are technically known as freak pictures, and are remarkable for the happy manner in which the same subject is made to do duty in different portions of the same plate. In one a boy, with his feet in a bowl, hands himself a towel, and in "The Ride to Banbury Cross," a pretty little midget, seated on a barrel, is triplicated on the right and left of herself, while her laughing face again appears looking from a barrel. The workmanship is perfect, and the club, while complimenting the lady on her success, congratulates itself on being so kindly remembered.

February 24.—A Public Print Exhibition was held in the club-rooms on Carondelet street, which were most tastefully decorated with palms, while long pendants of native moss drooped from the chandeliers, making a very odd and picturesque effect. The four gold medals which had been offered by the club were awarded to the following fortunate exhibitors: For the most artistic "Silver-print," one medal to Mr. C. A. S. DuQuesney; for the best "Platinotype," Mr. Paul Reynes: for the finest "Transparency," to Mr. Horace Carpenter, and for the best general exhibit, to Mr. S. L. Mitchell. Those honorably mentioned were Messrs. R. H. Palfrey and S. F. Lewis and Mrs. J. Kendall, of Norfolk, Ct.

The medals are of most artistic design and are of solid gold, handsomely modeled.

The design is circular, about one inch in diameter, and the face presents a camera in relief, surrounded by a wreath of laurel, the name of the club, and the date, 1892. A pin representing a tripod folded and strapped for transportation supports the medal by two small chains of three links each. They are very tasteful, and were much appreciated by the recipients.

The Exhibition was the first one ever given by the club, and it is to be congratulated, for the pictures, as a whole, were of rare excellence.

NOTE.—*Much other news pertaining to the Philadelphia and other societies stands over till April.*

RECENT EXHIBITIONS.

ANNUAL PRINT EXHIBITION, PHOTOGRAPHIC SOCIETY OF PHILADELPHIA, 1892.

This exhibition held in February was noteworthy in several particulars, not so much in the number of prints shown as in their superior quality. There were 109, and a remarkable fact was that so very few silver prints were exhibited, the large majority being matt-surface, bromide, platinum and other processes. A most enjoyable and instructive set of views was shown by Dr. C. L. Mitchell, mostly Norwegian. They were taken on Carbutt's ortho-chromatic films, 8x10, with and without color screens, and demonstrated the good qualities of these as being the best film negatives we ever saw. The gradation of tone was perfect, and the addition of color would not improve them in our estimation. Some were bromide, but the majority were platinum. He secured one of the four Honor pictures voted by the society for his platinotype print, "The Loen-Vand, Norway." This was taken with a color-screen, and was an exquisite bit of work. It was refreshing to see foreign views which were not under 5x7 in size. Dr. Mitchell used a Steinheil lens. The second Honor picture was secured by W. H. Rau for his contact bromide print, 18x20, "On the Blue Juniata." It must have been difficult to choose among Mr. Rau's as among Dr. Mitchell's work—it was all good. We also liked "On the Conemaugh." All his work was on Carbutt films. Another Honor picture was by that thoroughly efficient secretary as well as practical photographic worker, Mr. R. S. Redfield, entitled "Navigation," children sailing a small boat on a picturesque stream. His "Study of Sheep" seemed to us a close second. The former was a platinum print, and the negative was on a Cramer plate, made with a Dallmeyer lens. The last of the prize pictures was by Charles H. Miller, called "The Village Mill," and, like its fortunate companions, was a fine study. Among the other good works shown was one specially fine portrait study, taken in the open air, of an old colored man, "Uncle Zeke," by Clarence B. Moore, and his similar studies fell little, if any, behind it. It was a platinum print, and the lens used was a Français. It is impossible to notice all the work shown, but mention should be made of a gem of artistic work by C. R. Pancoast, a snow scene; a study, "November," by W. H. Walmsley, and the exhibits by H. P. Bailey and Henry Troth. George B. Wood had a number of prints, the best of which were his studies at the seaside, notably "The Old Fisherman." "The Fisherman's Bride" did not, in our judgment, quite agree with its title.

The pictures showed to fine advantage in the new rooms, which are well lighted and arranged. It would be well if other societies followed the worthy example of Philadelphia in giving these annual print exhibitions. We need not look far to find why our foreign competitors so often carry off American as well as European prizes when we note their constantly repeated exhibitions, where every effort to raise the standard of camera work is appreciated and seconded by competitors and officers. It is idle to expect general and strongly-marked photographic progress in this country until we decide whether we are laboring merely for personal credit or to advance the best interests of photography. The Philadelphia Society are to be congratulated on their exhibition. Such work is an inspiration and encouragement to all who are willing to go through the same labor.

FIFTH ANNUAL EXHIBITION OF THE CAMERA CLUB OF HARTFORD.

The fifth annual exhibition, held in Hartford between February 23d and 27th inclusive, was one of the most successful the club has given.

It opened on the evening of February 23d with a private view, which was largely attended. Among the out-of-town guests were Miss Catharine Weed Barnes and Mr. F. C. Beach, of THE AMERICAN AMATEUR PHOTOGRAPHER. The rooms had been tastefully decorated with flowers by Mrs. Dr. Parmele, and refreshments of a solid character were provided. During the evening music was furnished by the amateur musical organization of Springfield, called the Alpha Banjo, Mandolin and Guitar Club.

Dr. Parmele invited Miss Barnes to make a few remarks. In response, she spoke of visiting Dr. C. L. Mitchell's slide work-room in Philadelphia, where the simplest appliances for such work were in use. She also advised the members to take up lantern-slide making more extensively, as they would find it one of the most interesting branches of photography.

She congratulated the club on its success and the careful work hung on the walls, it giving her much pleasure to be there. She was asked numerous questions, and, with her characteristic frankness, was most obliging in giving answers.

Regarding the exhibition itself, we noticed among the pictures which seemed to call for special attention No. 6, a very pretty wood scene, showing a striking sunlight and shadow effect on the ground, by Mr. F. D. Berry, treasurer of the club; Nos. 10 and 12, by Mr. A. D. Francis, displayed good technical work.

Mr. A. S. Clark had a large number of prints, on Eastman paper, made from plates and films, showing a variety of landscapes, groups and architectural views. The best in this set was "Fishing," though the grass in the distance was somewhat snowy; No. 22, "Old Orchard Beach," was fairly good.

In a lot of albumen prints, mostly 4 x 5, by Mr. Samuel Ferguson, "Falls of Middle Haddam" seemed to be the best. He also had in another frame of 4 x 5 views an excellent bromide enlargement, 8 x 14, entitled "Paradise Brook."

Mr. A. D. Risteen showed three pictures, of which No. 53, "Group," was the finest, being very naturally posed and reasonably well lighted. Some very excellent microscopic views were contributed by Dr. A. J. Wolff, No. 55. "Test Diatom Amphipleura Pelucida" was quite remarkable. Each dot is separated from the other by $\frac{1}{192000}$ of an inch.

Mr. Charles L. Goodwin exhibited a series of platinotypes, some of which were made by himself, and some not. They covered interiors and road scenes; of the latter, "Lake Carasaljo, Lakewood, N. J.," was perhaps the prettiest, and of the former we admired No. 76, both for its tone and lighting. Near Mr. Goodwin's exhibit were the prize pictures by the Camera Club of Hartford, contributed to the American Prize Print Interchange, and also the prize pictures contributed to the same interchange by the Mattapan Club. In the former set the picture most admired was one by Dr. George L. Parmele, having a very artistic cloud effect; in the latter, a very good platinotype-picture of a boy, by Mr. E. L. Canford.

Of the ten views shown by Mr. R. A. Wadsworth, secretary of the club, Nos. 85 and 84 were remarkably good pictures, soft and clear, representing an old time cottage with a gambrel roof. Another view by the same gentleman was a street scene in Hartford after a storm, showing excellent ice effects.

The president of the club, Dr. George L. Parmele, had nine pictures, printed on plain, salted paper. In addition to his twilight picture, which has been previously mentioned as being among the American Prize Print set, we notice No. 92, "On the Meadow," showing excellent Autumn effect. Other views on Aristo paper and albumen prints were not as attractive as the aforementioned.

Of Mr. W. W. Walker's exhibits of 6¼ x 8¼ albumen prints the best, technically considered, were "Road Scene, Jamaica" and "Spanish Steamer, Havana Harbor." The others were much too hard.

Mr. Chas. R. Nason, the corresponding secretary, had a number of excellent bromide prints, of which No. 110, entitled "Aground," was remarkably clear and perfect. No. 112, "The Mill is Still," was very delicate and soft, and showed a tiny stream trickling over the rocks. No. 114, representing a camp house in the woods, was soft and equally lighted. In addition to his larger work, he had a frame of nine small views, 3¼ x 4¼, made with a hand-camera. Of these, "Where the Waves are Rolling In" appeared to be the best.

Mr. W. J. Hickmott had a single frame, on an easel, of nineteen portrait studies of various sizes, from 8 x 10 to cabinet size. The majority were portraits of young ladies and children, made under his own skylight. One that had been awarded a prize was a picture of a little girl standing in front of a small table and pouring out tea for her company, which consisted of one or two dolls placed on the rear of the table. One very amusing picture was that of an infant crying with all its might, while in strong contrast was another of a baby in the act of raising its hand as if about to deliver an oration. A portrait of a young girl dressed in white was very gracefully posed. His work, as a whole, was very nicely lighted and soft.

Mr. L. W. H. Gradisky exhibited a series of ten 5 x 8 views, among which were "Departing Days," a very good cloud study. Another, full of atmospheric effect, was No. 135, representing a double yoke of oxen, one pair of which was somewhat obstinate and the driver was endeavoring to persuade them to go forward down the road. The effect seemed to be gained by over-exposing the plate. Three of the prints were made on Eastman paper toned with uranium nitrate.

Mr. W. H. Benjamin had nineteen 6½ x 8½ views, printed mostly on bromide and plain albumen paper. Those which struck us as being particularly interesting were: "By Fern Bank and Reedy Down," "On the Hillside" and "Brook Willows." The latter we thought might have been improved if it had been printed a trifle darker. In the set was a portrait, No. 150, which was rather hazy, but soft, representing a portrait of a lady with light hair. (Nos. 150, 151 and 155 received diplomas.)

In the set of six 6½ x 8½ pictures by Mr. F. M. Barber, printed on plain paper, we noticed the "Old Maid's Tea Party," which had received a diploma as being very happily posed and artistically lighted. His landscape views were a trifle dark, and the remainder of his portraits somewhat hard.

Ten views by Mr. E. R. Kellogg, on albumenized silver paper, displayed very careful work. His diploma picture, "Tumble Down Brook," was nicely arranged, and was taken from a good point of view, was soft and possessed pleasing atmospheric distance. No. 170 was an excellent view of a camp scene, showing the camp-fire still smoking. A very peculiar picture was entitled "Asleep." It was somewhat over-exposed, and represented a young lady asleep on the rocks in the foreground.

The frame of nine 5 x 8 prints by Mr. F. A. Thompson contained two or three very pretty views of trees encased in ice.

The nine albumen prints by Mr. J. R. Stoddard were fairly good, but were printed too dark. The most artistic view in the set was "Rustling Brook," and on close inspection this appeared to lack the necessary sharpness.

Mr. N. O. Cornwall, of Portland, Ct., contributed two frames of 6½ x 8½ prints, made on Aristo and platinotype paper. In frame A we notice a fairly good landscape of a farm; some of the other views in the frame were out of focus. Of the four views in frame B, "After the Ice-storm" was perhaps the best. The most interesting feature in this exhibit was a frame of daguerreotypes, made by Mr. Cornwall in Brazil in 1850–51, representing portrait studies. He is the oldest member of the club.

Mr. O. H. Ham exhibited photographs of architectural views which were not for competition. In the exhibition we noticed nine transparencies, mostly 6½ x 8½, by three members. Mr. J. H. Chamberlain contributed five, made by the carbon process, but most of them were printed too dark. Perhaps the most evenly lighted, and the one which seemed the most perfect, was made by Mr. A. D. Risteen on a gelatine plate. It was entitled "Interior," and was the picture of a room once used by Chas. Dudley Warner as his study. There were also a few lantern-slides contributed by Mr. Nason, Dr. Parmele and Mr. Peters. A frame of three of the best nickel-in-the-slot pictures, taken in Paris, that we have ever seen on exhibition, was loaned by Mr. Coolidge Hills.

Diplomas were awarded as follows: R. A. Wadsworth, Nos. 84, 85, 86, 87, for best general excellence in the exhibition; Dr. Geo. L. Parmele, Nos. 90 to 97, for originality in composition and execution; Charles R. Nason, No. 114, for composition; Dr. A. F. Wolff, Nos. 55 to 71, for scientific excellence and execution in photo-micrography; Samuel Ferguson, Nos. 50, 51, for general excellence (two enlargements); Abel S. Clark, Nos. 20 and 31, for artistic feeling; Dr. E. R. Kellogg, No. 173, for composition; F. M. Barker, No. 161, for composition and artistic feeling; W. J. Hickmott, No. 127, for composition (portraits); H. W. Benjamin, Nos. 150, 151, 155, for artistic breadth; N. O. Cornwall, Nos. 201, 203, 204, 205, for daguerreotype originality; L. W. H. Gradisky, No. 135, for breadth; A. D. Francis, No. 10, for originality; J. H. Chamberlain, Nos. 206, 209, for artistic feeling and originality (carbon transparencies); Dr. Geo. L. Parmele, for grand excellence (lantern-slides). There were 23 exhibitors and 250 prints. The judges on the prints were Charles N. Flagg, Horace L. Bundy and Daniel F. Wentworth. The judges of the slides were O. H. Ham, Dr. H. McManus and R. A. Wadsworth.

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Books and Exchanges.

PHOTOGRAPHIC MOSAICS, 1892. Edward L. Wilson, New York. 287 pp.

It contains fourteen full-page half-tone illustrations of average merit, a *résumé* of photography for the year 1891, and many articles of interest by well-known writers. Mr. A. R. Dresser has an article on "Hand Cameras," with three very good half-tone illustrations. Mr. Alfred Stieglitz has an interesting article on "A Plea for Art Photography in America," in which he suggests many useful hints. "The Critical Faculty," by H. Snowden Ward, of London, is another article containing many suggestions of value. Mr. C. H. Bothalamy, of London, has something good to say of the Kallitype process; another article, entitled "But an Amateur," by Miss Catharine Weed Barnes, is full of spice, bright suggestions and hints extolling the utility and usefulness of the amateur photographer, and comparing him with the professional. General Jas. B. Brown, U. S. A., treats fully on his experience with Omega paper. Mr. H. P. Robinson tells how to make pictures, and W. L. Shoemaker describes a mode of "Preparing Photographs for reproduction by the Half-tone Process." "A Home-made Lantern" is explained by A. L. Keyes. In the back of the book are illustrations of recent apparatus, and one or two tables of chemical measures. The book is clearly printed, simply arranged, and contains much useful information. It appears later than usual, as it was the intention of the publisher to wait until the year expired.

Outing for March is a specially interesting number, containing articles on "The Status of the American Turf," "Cycling in Mid-Pacific," various papers on athletics, also the serials "Saddle and Sentiment" and "Harry's Career at Yale." The record pages are full of good things, containing, we note, the usual photographic editorials.

the prints be first dried before being mounted, thus allowing the fibers of the paper to resume their natural position, all difficulty will be avoided and the resulting picture will be natural.

In Bromide Paper—Experiments with these papers show a remarkable contraction after clearing, washing and drying. The contractions were different in different directions of the same paper, and finally the extent of the contraction depends upon the atmospheric conditions, and changes constantly.

DIVERGENT RAYS—When rays of light separate from each other more and more, they are said to be divergent; when they tend toward each other and to the same point, convergent. Every luminous body emits divergent rectilinear rays from all its points and in all directions.

DOCUMENTS, HOW TO COPY OLD—Old documents, yellow with age, may be readily copied by using orthochromatic plates.

DODGING NEGATIVES—Negatives are rarely perfect in every respect, and many devices are resorted to, to improve their character and printing powers. A very common fault found in landscape negatives is a want of harmony in the blending of the tones. The shadows are too thin and the high lights too dense. A print from such a negative would be very unsatisfactory. The shadows must be brought up to the proper density to print well with the high lights. One way of securing this end is to paste tissue or tracing paper over the back of the negative, cutting out the high lights with a sharp knife. This will give more density to the shadows. Some recommend the application of black lead with a stump to the parts which require it, and even to the tissue paper. A better gradation can be secured by coating the back of the plate with a plain collodion, to which a tinge of red or yellow has been given by the addition of aniline dyes. Weak and thin negatives require a considerable depth of color. Mr. Burbank prefers the following, which the author has found very successful: One drachm of powdered sandarac is dissolved in 14 drachms of ether, 15 grains of Canada balsam and 5 or 6 grains of pure benzine or benzole are then added and the varnish filtered. It is applied by flowing it over the back of the negative, which is not warmed. One, two or three coats may be given, according to amount of density required. The advantage of this varnish is that it may be removed from the denser portion of the negative with a brush dipped in mastic varnish, and that it admits of any amount of retouching with plumbago and the stump, or with the pencil, and if desired it may be colored with aniline dye. Very dense or hard negatives require to be printed in bright sunlight, facing the sun, if it is not desirable to reduce them. Local reduction can be effected by rubbing over dense spots with a piece of soft linen drawn over the finger and moistened with alcohol, or a small quantity of some one of the reducing agents applied with a brush. Weak and thin negatives print in the shade, apply as above or print under glass coated with colored collodion, red, yellow or green. Several glasses of different depths of color are handy things to have in the printing room. Pin holes, scratches and other defects of a similar nature should be touched up with India ink applied with a very fine brush. Have the ink nearly dry and lay it on thinly to attain, as far as possible, the density of the surrounding parts.

DOUBLE PRINTING—The combining of two or more negatives, so that the resulting print will gain in beauty and artistic effect. Printing in skies to landscapes where otherwise there would be a blank space, etc. Some deny the legitimacy of double printing and claim that it is not true to nature.

DOUBLE PORTRAITS, FREAK PHOTOGRAPHY—The so-called double portraits are simply photographs in which the same person appears twice, or even three or more times, in different attitudes, upon the same plate. For example, a person may be seen sitting at a table taking wine with himself, or one playing a game of chess with himself as an opponent, and also appear as overlooking the game. For the preparation of these pictures only a very simple arrangement of apparatus is needed to add to the ordinary camera. A good way is found in the employment of a plate holder fitted with a pair of doors, instead of the usual slide, which can be opened from the outside by means of handles. All the accessories and the camera, of course, must remain undisturbed in exactly the same place. When the masking has been accurate, there is no trace of division on the picture The light and time being identical for each half, the edge of the junction is soft and gradual. The material of the doors must be dead black in order to reflect no light. The subject, shaking hands with himself, is a very effective picture. A support is necessary in this case, so that the hands will take the same position on both sides. It is best accomplished by means of a dark colored string or strong thread, the two ends fastened to the walls and the center, by means of another thread, to the floor, forming a wide Y.

DOUBLET LENS—A lens of two combinations. See Lens.

DRACHM—Sometimes written dram. Apothecaries' measure—60 grains solid, 60 minims fluid. See Tables.

DRONIN'S LAMP—An ingenious arrangement of a lamp for the production of magnesium flash light simultaneously with the opening of the lens. Consists in a simple portable petroleum lamp, the upper part or wick tube of which bears a stem having at one end a little platform to hold the powdered magnesium and at the other end a pipe communicating with a rubber tube which, divided into two branches, proceeds from the pneumatic bulb in connection with the exposure shutter. The bulb, when compressed, acts simultaneously upon the air, which brings the powder and flame into contact with each other, and upon the exposure shutter, which is thereby opened. With this lamp exposures can be made in daylight, and dispenses with the necessity for leaving the lens open during the whole operation.

DROP SHUTTER—See Shutters.

DROPPING TUBES—Consist of glass tubes, one end drawn to a point. The large end is closed by the finger and then plunged into the liquid to be withdrawn. Releasing the finger causes the fluid to ascend into the tube to the required height, the finger is again applied and the tube with its contents removed. The removal of the finger causes the liquid to run out of the tube, which can be stopped by the reapplication of the finger. It is well to have these tubes graduated in minims, so that an exact amount can be dropped. Sometimes the large end of the tube is blown to a globe shape, the top of which is covered with very thin elastic. A very gentle pressure upon this will cause the liquid to fall, drop by drop.

DROPS—A very general and mistaken idea prevails as to the size of drops—*i. e.*, that they are all of the same size. Water has been chosen as the standard for size and weight. But even with water, temperature modifies the size. Just above the freezing point the size of the drop is much diminished. Drops of alcohol, ether, bisulphide of carbon, sulphuric acid and hydrochloric acid all differ from each other and with water. Chloroform is said to produce the smallest drop.

DRYING BOX—There are various forms in use, but all have in view the inducing of a current of air among the plates and other light sensitive substances, generally by the burning of a gas jet in a tube or chimney. The fault of most is that the air passages are much too contracted. In many heat is applied to the incoming air. This is quite unnecessary, if the air passages are sufficiently large and well arranged, and if the box can be placed in a fairly dry place. It is, moreover, a greater mistake to use artificial heat in drying plates, etc., if it can be possibly avoided. They are rendered distinctly slower thereby. The box can be made of deal, light-tight, with two bottoms, one pierced with holes, and the lower one about one and a half inches open below at the two sides. It is absolutely necessary that the racks or shelves be accurately level. It will take from twelve to forty-eight hours to dry the plates, according to circumstances, temperature, moisture, etc.

DRY PLATES—Glass of various sizes, coated with a film of gelatine in which a sensitive salt of silver has been emulsified. There are so many makes of dry plates now in the market, all of good quality, that it would be impossible, as well as unjust, to say which brand is the best. The amateur has a wide margin to choose from, but at the same time let him avoid the purchase of cheap plates because they are cheap. He will surely lose if he does so, both in temper and money. Should he desire to make his own plates, reliable formulæ for the same will be found under the head of emulsions. As nearly all plate makers prepare plates of different sensitometers or degrees of rapidity, it would be a very great convenience to photographers if all would use one standard scale for marking the rapidity of their plates. Some use Warnekes' sensitometer, and others gauge by their relative rapidity to wet plates, giving high numbers. As the bulk of the amateurs of to-day never handled a wet plate, this method is, to say the least, very perplexing Avoid handling very rapid plates until thoroughly conversant with the requirements of the much slower ones.

DRY PLATES, SOME OF THEIR DEFECTS, SCRATCHES OR HOLES—Seen by looking along the surface, or even through them, caused by particles of grit or dust between the plates, if the two surfaces come in contact by rough handling. These marks are sure to be found in the finished negative. Upon looking at the surfaces by reflected light, they will sometimes appear "mat" more at the edges than elsewhere, caused by the drying of the plates at an unequal temperature or by the edges coming in contact with something that contaminates the coating. After clearing, the portions of the plate that presented the mat surface will be of different density—well exhibited by the resultant print. As nearly all plate makers use paper in some form, either at the edges or between the plates, to keep them from contact, which practice is another source of marking if not thoroughly free from objectionable chemicals, their presence is soon demonstrated. If impure edge separators are used, the markings begin at the corner and extend toward the center. Should the paper used be not thoroughly desiccated, beautiful (?) grained impressions will be found, opaque spots and pits show on the surface as dull patches, said to be caused by carbonic acid gas in the gelatine. These spots develop clear and dry quicker than the surrounding portions, but when cleared are not transparent and seldom eradicated. The pits, which are an exaggerated or violent form of the opaque, are not so frequently met with now as formerly. Another form of spot is caused by particles of dust falling upon the plate before the coating has set. Clear spots that are not caused by abrasion of the film are mostly due to impure chemicals. Very often the alcohol is at fault. Stains can very often be traced to the glass, and if closely examined their presence can probably be accounted for in the finger and thumb marks underneath the film, or from the bad quality of the glass used. Emulsion thin at the edges, due either to allowing the emulsion to set upon a table that is not level or else the glass is thicker at one edge than the other. In large plates the coating will be found of different thicknesses, owing to the undulations in the surface of the glass. Frilling is not so frequently met with now as formerly, because the plate makers treat their plates with a substratum and dry before coating. Blisters, another form of frilling, caused in most cases by a too long immersion in strong hypo. Pink, red and green fog are much the same thing, only in different stages, and may easily be caused by forced or prolonged development. Although a great deal has been written on green fog, still no satisfactory explanation has yet been advanced. Surface fog or veiling may be laid to the emulsion. It has either been struck by light, been heated too long, or has been prepared with an excess of silver.

DRY PLATE, WASHING—For the perpetuity of the cleared negative it is absolutely necessary that every particle of hypo should be eliminated from the film. If not, no matter how small the amount left in, it will make itself known sooner or later, and impair, if not ruin, the negative. Various conveniences, such as tanks, washing pans, trays, etc., etc., are to be met with. No matter which the amateur shall elect, he must remember that, as far as dry plates are concerned, the doctrine of total immersion must be carried out.

DRY POCKET GUM—A handy thing to have on hand, especially when away from home, either afield or afloat. It is made from twelve

(To be continued.)

By Still Waters

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Canada Through a Camera's Eye.

BY H. C. PENN.

AN invitation to be the guest of two St. Paul sportsmen on a trip up that world-famous trout stream, the Nepigon River, in western Ontario, was not declined. It was in July, and I had taken my full of viewing and view-making around the Twin Cities, having spent much of a school-teacher's vacation in that vicinity. With some excitement I set about making preparations. I had an Eastman 6½x8½ camera, a Voigtländer rapid euryscope, No. OOA (sixth series), fitted with Prosch triplex shutter, twelve plate-holders and a 5x8 roll-holder built out to fit the camera. For distant views I added a 12½-inch Darlot single-view lens, fitted with a Packard shutter, and found this combination quick enough for all distant work on the rapids that fill the Nepigon. Five dozen 6½x8½ Seed twenty-six plates, an Eastman film in the roll-holder, developing dishes and chemicals, with a box to develop in, completed the outfit. I was afraid that in the far north, to which I thought I was going, the conditions would be quite new, and I should need to develop a plate occasionally to see what the light was doing.

The journey to and from the Nepigon was a delightful experience—over the St. Paul and Duluth Railway; through the beautiful, rolling, legend-haunted Minnesota; through Duluth, that magic city suspended on a hillside; out on the clear, calm Lake Superior, the Gitchee Gumee of Hiawatha's people, from Duluth to Port Arthur; and thence on the Canadian Pacific Railway to the mouth of the Nepigon, which empties into Lake Superior at the most northern point of its shore.

This Nepigon is a wonderful stream. Forty miles long, it connects a lake of the same name with the greater Lake Superior. From end to end the stream is bordered by great hills that were once covered with stately pines, long ago destroyed by forest fires. Instead have grown up monotonous-leaved poplars that give no life in a picture, unless one waits for floating clouds to cast wandering shadows over the landscape. Not all the pines are gone; in places they stand thick and tall, like the giants of old that they are. They guard this highway to Hudson Bay. For generations men have passed under the shadows of their dark foliage, carrying supplies over the frozen water to the regions around Lake Nepigon and Hudson Bay. The venerable Hudson Bay Company has a station on the Nepigon, near its mouth, and has been the autocrat and the plutocrat of the region; but it is losing its hold upon the country.

The Canadian Pacific Railway, which on the map follows the northern shore of Lake Superior, sometimes carries the passenger along the face of a perpendicular cliff, with the waves of the lake dashing in spray upon its rocky base; sometimes at a distance, when the shining water gleams through breaks in the forest or rifts in the hills; sometimes far inland, over wide, rolling uplands, by quiet little lakes. So it happens that the railway crosses the Nepigon (I should guess) about seven miles from its mouth. There our camera takes its first peep at Her Majesty's loyal dominions. Climb a little distance up the hill overhanging the railway, a quarter-mile west of the bridge over the Nepigon. From the bridge at the left the great river comes sweeping to the right immediately in front, then makes a wide bend to the left, then again to the right behind the white houses of the Hudson Bay Post, and so zigzag on ten miles to Nepigon Bay yonder between those blue hills. On either side of the stream, contrasting with its gleaming water, rise densely wooded hills, masses of brilliant green, fading to a soft blue in the distance. Four exposures are made on this one scene; it is a new country—it is a magnificent panorama. The hand trembles a little in making the first attempt on this strange landscape. As the camera pointed south, the sun must be in front; but with the lens well shaded that was an advantage: it turned the dark sides of the hills toward me, else all might have run into one mass of color.

By the time we have taken other views here—of the long, high railway bridge, of the rapids under it, of the river below it and the lake above it—

others have secured guides and canoes. Tents, provisions, fishing-tackle, photo apparatus, two anglers and a photographer are all stowed away in the boats, and with two Indians to man each boat, the journey up-stream is begun. For five miles our course is through Lake Helen, a distention of the river among the inclosing hills—the lake that we have caught from the bridge. A strong wind is blowing down the nine miles of lake water, and sends against our light boat great waves, white-capped, that dash up in spray when the prow of the canoe divides them; but the frail vessel, by reason of its lightness and its form, rides well the rough water. From the wind on the lake we turn to encounter the current of the river, and inch by inch force our way past a mission station, past houses, huts, cabins and wigwams, past returning parties of sportsmen, past Indians just back from a day's fishing in Lake Helen, their canoes loaded down with trout, whitefish and suckers. At nine o'clock in the evening our tent is set up at Cape Alexandria, by the first rapids that stop our progress. We whites from "the States" begin to hunt round for the emptied bottles of former parties to stick our candles in, and come back to the camp-fire to find that our Indian guides have bent a little piece of birch bark round a candle, fastened the ends in a split stick, and driven the stick into the ground near the table. By this flickering light, miles from a human habitation, with the roar of Alexandria Rapids filling our ears, and the yet familiar stars above us, with a strange feeling of mingled exhilaration and fear and awe, we sit on comfortable stools at a wooden table, and eat with knives and forks a better supper than civilized man usually gets.

ABOVE SPLIT ROCK.

The tent remained at Camp Alexandria till the third day. There is little to photograph in the immediate vicinity, except with the kodak. I pressed the button several times, and caught one of my friends in several attitudes fishing trout out of Alexandria Rapids; but it was all in the picture; the place is always the first camp of parties coming up the river, and no fish are left there. One and one-half miles up the stream, however, is one of the famous places of the river. An almost impassable trail leads to it from the camp, and apparently few take the trouble to go there. Much of the trail is through the "primeval forest," where in the darkness the eye can scarcely distinguish the path. One stumbles along over the decaying trunks of trees long fallen, or climbs through or over or under more recent wrecks, plunging into hidden brooks, passing over great beds of moss held up by underlying roots of trees, and swaying beneath one's weight; then up one steep and down another, through underbrush and forest, till a sound as of distant thunder grows more and more distinct and resounding. Finally one comes suddenly out of the dense undergrowth upon the river bank, at the foot of Cameron Rapids. The water rushes down in a mass

CAMERON RAPIDS.

of white-capped waves for a full mile, and at the end of that mad race makes a plunge into an angry whirlpool, only to be thrown up in great masses and sent on in still white and seething waves, whose successive swells keep time to the awful music of the roaring torrent. The view taxes any instrument. One almost forgets, in the presence of such power, the needful details of work. We must place the camera where a little of the drift on the bank will make a foreground, to contrast its steadiness with the wild dance of the water. Then the bushes on the right are brought in to help throw back the white water beyond and the wall of trees on the other bank, and give some idea of distance. Then we must carefully focus, swinging the top of the ground-glass back from the lens to bring the near drift-wood to sharpness, and the left-hand side-back to do the same for the near bushes on the right. With such adjustment of the ground-glass we shall secure fair focus over all the picture without stopping down the lens. Finally set the triplex at its highest speed, press the bulb and the rapid euryscope will do the rest. With a ⅝ lens, working on a 6½x8½ plate, we catch the scattered drops that fringe the great mass of white water as with a deafening sound of thunder it is churned into foam and dashed high into the air.

At Cameron Pool one finds the Nepigon in its grandest aspect. Further up the stream we shall catch the finest views of the surrounding hills. The place is Split Rock, and there we might linger several days. Split Rock itself is a great, rocky, tree-covered Mormon tabernacle set down in the middle of the river, forcing the water to run past it in twin, foaming rapids. Steep hills rise on either side of the central rock, that on the east being really mountainous in its height and ruggedness. Climb up there till you are tired—over huge boulders that have broken loose from the cliff above and rolled down till they were checked and stopped for all time. Level your camera (it must have extension legs), and take the view down-stream. Away stretches the water below you—six miles of it—its lines broken here and there by little promontories jutting into the river, bearing one or more jagged pines whose dark foliage stands clear-cut against the bright water, while, beyond all, hills on hills arise dimmer in the distance. Here again a camera with perfect equipments is needful, if the best is desired. The long-focus lens, too, is in place. The view is bounded on either side by the hills that press upon the river, but limited otherwise only by the water below and the sky above. So the picture is taken upright (thanks to a reversible back !); and with the long lens the distant hills are not so dwarfed by those immediately at hand. Above Split Rock is a view even better. There, as at several other like places, the water stands level and quiet—a magnificent mirror for the hills to look into. A canoe floats calmly upon the smooth crystal bosom ; but if left to itself, it would soon be dashed to pieces in the rapids just below. The water is simply taking its rest, gathering strength for its violent race down the rapids; it is as deceptive as the beautiful picture that it reflects of the overhanging hills. If we climb a short distance up the hillside on the west, as we have done below Split Rock on the east, we can look up-stream for several miles. Before us is the river inclosed by great hills that in the distance draw nearer and nearer together until they mingle in one mass. Near the middle foreground is an island with several tall, straight pines upon it that throw their arms across the hills and sky beyond. But the outline of the trees would lie like a shadow upon the hills; and the hills on either side, too, would run indistinguishably together, if the exposure were made while they were equally lighted. We must wait with patience, half an hour maybe, until chance clouds floating in the air throw their shadows on this hill while that still stands out in sunlight, and our picture is relieved from monotonous shading. Shadows make a picture. From a high bluff overlooking the uneven

ABOVE PINE PORTAGE.

Nepigon Valley, where in full sunlight the view was monotonous even to the eye, I have secured a good picture by catching it when clouds varied the landscape with their shadows, while at the same time the sun in front turned the dark side of every hill toward the plate.

To lose no valuable time upon less important places, we go at once to Hamilton Pool. On the way up we pass Island Portage, where a low island divides the current while it itself is divided by a narrow torrent that rushes between rocky walls. After a few miles further of struggle against the might of the river, we reach the lower end of Pine Portage, named from the tall pines that yet stand, having by some good fortune escaped when forest fires leveled their comrades. It is a solemn tramp through those thick and wild woods two miles to the upper end of the portage. There we come to the famous Hamilton Pool, an eddy at the foot of Hamilton Rapids; the portage really ends a half mile further beyond the rapids—a portage being simply a path round rapids up which a canoe cannot be forced. Above the rapids the river, checked for a moment as by a dam, expands into a peaceful stretch of beautiful water that gives no suggestion of the violence of the angry rush of waves just out of sight, though not of hearing. As above Split Rock, the view is radiantly beautiful, especially when, through the crisp atmosphere of the early morning, we look up-stream; the eye, following the line of sunlit pines on the left hand away into the distance to the hills that stand on tiptoe to peep over their fellows, returns on the right to rest in the cool but clear shadow of the unlit forest-covered hillside. The circle of beauty is completed by the waving grasses and undergrowth at our feet, and, in the midst of it all, the placid water gleams with a brilliance born only of the unclouded morning.

In extreme contrast with the peacefulness of this scene is the violence of the rapids. The stream for a quarter of a mile divides into two swift torrents, and midway the east channel again divides, sending part of its water across to its companion torrent. From one point all three channels are in view; but to secure a negative of them one must balance himself and his camera on a ledge of rock twelve inches wide, just above the mad waters, where a slip would bring ruin to his apparatus and probably to himself. The picture secured there was not worth the risk; I had to stand on that ledge over twenty minutes waiting for the sun to shine. Nothing but the quickest exposure would catch any of that foaming rush of whitened water, and nothing but a wide-angle lens would include the needful ground; but such a lens would have been useless because of its slowness. At no point of the trip was a wide-angle lens a necessity; but the long-focus lens did duty often. Another view obtained with difficulty was from the summit of the bluff overlooking the rapids; but several trees had to be cut out with a little camp-ax, and the picture secured was not worth what it cost.

Our highest point up the river was Virgin Falls, near Lake Nepigon, where the river makes its maiden leap. Above the falls are some tame rapids, as if the water were practicing for the plunge that it is to take immediately after. Then for an eighth of a mile the river broadens, then gathers into a deep, swift-moving mass of green water that, as it leaps over a thirty-foot wall, becomes a raging caldron of foam and spray.

Innumerable other features of the Nepigon we have not yet examined, and we have not the time to do so in detail. We shall simply take snap shots at them with our kodak. There pass before us broad expanses of land and water, where the country is level and the river, running as it pleases, becomes a wide stream full of islands; for example, above Camp Victoria. There are lakes made by the expansion of the river among the hills, some of them dotted with islands and fringed here and there with bulrushes and tall reeds. There are offsets, not large enough to be called lakes, where the water backs up between high hills, and there remains a placid mirror. With the kodak we catch, too, many exquisitely beautiful nooks as we fly by them with the current; and interesting souvenirs—a string of fish; an old Indian, with his wife and daughter, carrying bag and baggage in his birch canoe; our own guides, with canoes on their shoulders, ready for the tramp from landing to landing. One morning—our last on the river—we witness one aspect of nature that the camera cannot portray. We have camped near the lower end of Long Portage, a mile above our first camp at Alexandria. We awake to find the world hidden in dense mist. We embark on a little creek and float down it to the main stream—a pleasant experience, for the water is smooth and the creek narrow, and we see its beautiful banks as we glide past. But once out on the river, the rough waves of a long stretch of rapids seize us and bear us helpless onward. The dense fog obscures one bank and half hides the other. With only a frail birch-bark canoe under us, heavily loaded as it is, we rush down-hill on angry waves, nothing solid nor firm to gladden even the sight, except a faint shore-line on the right—nothing but impenetrable mist elsewhere. Ahead of us great

ABOVE VIRGIN FALLS.

rocks come into view with startling suddenness, the water raging about them—seen only for a moment as the canoe darts by—on down apparently to a mist-hidden, bottomless abyss. A roaring Niagara is just ahead awaiting its swift-coming victims.

A short time afterward we are again upon the bosom of Lake Helen, with the same dense fog around. The water is calm, except for a slight ripple made by the cool morning breeze. We can distinguish objects for only a short distance. No land is in sight, but on our right is a companion canoe ; further behind, another ; further yet, another and another—each in the greater distance a more ghostly craft manned by more ghostly occupants, whose muffled oars dip with the solemn regularity of a dirge.

But our photographic trip in Queen Victoria's land must end. We have no time to secure views of the homeward voyage around Isle Royal in Lake Superior—the fishermen and their stations nestling among the hills on the beautiful harbors, the great flocks of gulls, the clear water washing the shores of innumerable small islands, the hoarse whistle signaling through the fog, the single oarsman that pulls out in a cumbersome skiff to get the mail for some lone fishing village, coming out of the fog for a moment and disappearing again—his only glimpse during the week at the outside world. We must return to civilization—to smoke and haze, to heat and dust, to stagnant lake and muddy river—after breathing the pure, bracing air of the Nepigon country, and dipping from the river cold draughts of the Nepigon's sparkling water while our airy canoe with its narrow prow divided the crystal wave. We come back to listen to the shrill locomotive or the hoarse mill, the clatter of hoof and wheel on macadam street, the wearying prattle of business on every street corner—after listening to the grand anthem, the awful music of Cameron Rapids, and the soft sighing of breezes that came to us breathing the fragrance of the pines among whose branches they had just been singing. The pioneer's life is doubtless a hard one ; but it is not strange that some men leave our comfortable, commonplace, soul-confining civilization to live where the winds are free, the sunlight bright, the air pure, the waters clear—where Nature is herself.

Multiple Exposures.

[A Communication to the New Orleans Camera Club.]

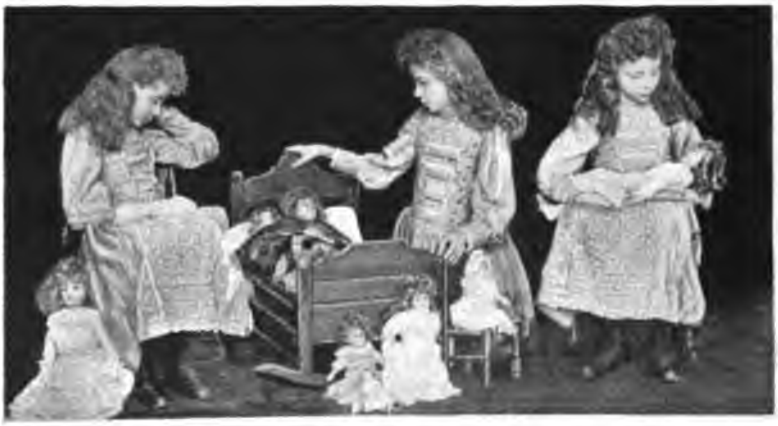
BY MRS. J. C. KENDALL.

DURING the first part of 1891 I often thought of writing to you, but with the unsettled question of what I could write about—with the fear of imposing on the good nature of those older and wiser than myself by telling them something on which they might waste time while listening—I kept putting off the matter.

One Sunday afternoon, while I was indulging in a rest, I listened to a Sunday-school lesson that was being studied. The lesson was in John i.5: "And the light shineth in the darkness, and the darkness apprehended (or overcame) it not." The impression the words made on me were unconsciously applied to photography, and I formed the intention that if Monday showed itself with any sort of actinic power I would try an experiment which, if the darkness cannot overcome the light, would probably be a success.

I had not suitable conveniences to try my experiments, so I used black satine for a background, to try on, and made out that after procuring black felt for background and for foreground, my success would be pretty certain.

I now proceeded to make multiple exposures of children on the same plate. I found that I needed a background at least ten feet wide. I then focused so as to have the 6x10 background and 6x10 foreground covering the ground-glass focusing-screen. I then placed the child so that it would register in the centre of the plate, and, after focusing sharply, I stuck three black pins where the child's feet rested; then I placed and focused the sitter on each side of the middle. I moved the child into focus without moving the screen; after it had been adjusted for the central figure, I placed black pins in the floor to indicate where the child was to be placed. After a little recess I inserted a plate-holder, pulled out the slide and proceeded to make the central exposure; then I removed the child, with all accessories, so there was nothing left but the black felt, which would take as nothing on the negative; and with the assurance that the darkness *cannot* overcome the light (the child having worn light



AN AFTERNOON WITH THE DOLLS.

clothes), there was no fear of the second exposure affecting the first one in any way ; so I placed the child into the second position marked out by the pins, being careful that nothing of the second exposure would come in contact with the space on which the first exposure had been made. The third exposure was made on the other side of the central figure, indicated by the pins in the same manner.

You know from experience that we never undertake anything in photography without meeting with obstacles ; in fact, we would feel lost if we did not meet with some difficulties and unlooked-for puzzling results ; but we never lose heart if we can only work our way through and find remedies and grow a little wiser through our failures.

In developing the plate mentioned, I noticed the central figure coming up, and the other two followed nicely, and I soon saw that the child did not show blurs. I was quite sure the picture would be a success, except that the central figure stood out a little more prominently than the others ; but I encouraged myself with the thought that it might not detract from the picture to have it so, or, if necessary, I could thin out the central figure.

After having made a large number of plates of this same character, I tried making my exposures, beginning on one side, then the other side, and lastly on the central position. That brought success, and my plates are now as evenly lighted as they need to be. I will send you several samples of pictures made by this simple process, with the hope they may stimulate some of your members to improve on them, and produce pictures in that line much superior to any that I would be able to think out.

I have no skylight, and so use the light of the sky as best I may. I take these pictures on a south piazza with sky overhead, or inside of our barn, the doors facing south. I have the doors wide open, and begin to work as soon as the sun gets away far enough as not to shine directly in. I use an 8x10 euryscope lens and triplex shutter, and on a fairly bright day I can get light enough on a picture like "Riding to Banbury Cross" by exposing, as fast as I can move the shutter on the slow instantaneous movement—what they call a fiftieth-of-a-second exposure—with second largest diaphragm and Seed No. 26 plate. When using a shutter the exposures are apt to be most uniform ; but on the picture of the girl with her dolls, I gave an exposure of two seconds (by guess) on each position, and the lighting is quite even, as the day was not clear, and I used a smaller diaphragm.

On the picture of "Riding to Banbury Cross" I made the outside exposures first ; then the barrel was brought and the inside picture was first taken ; then a black cover was placed over the same barrel and the child was placed on the top of it.

By way of a suggestion, I will tell you of another experiment I made last Fall. I photographed a part of an old hip-roofed house, including two windows, one under the other. The house was covered with a vine, and a part of the attraction of the picture was bright-eyed children looking out of the upper window, the same children looking out of the lower window, and at a third exposure they had been placed on the lawn under the lower window.

A still day without sun is to be preferred for the work, and a dark vine will not feel indignant at a triple exposure of one second. Darken the rooms included in the picture, so the background for the children will be perfectly black, and there should be nothing in sight of the windows to interfere while the multiple exposures are made. Before making the first exposure a black cloth is tacked under the lower window, and the cloth is removed just before the last exposure, with the children on the lawn, is made. Choose, if possible, a very small house, so there will be no need of much distance in order to take in the two windows and the lawn.

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Distance Photography.

IN the annexed illustrations we represent a few photographs taken from "Prometheus" to show the wonderful results obtained by Dr. Adolf Miethe's new camera with a teleobjective.

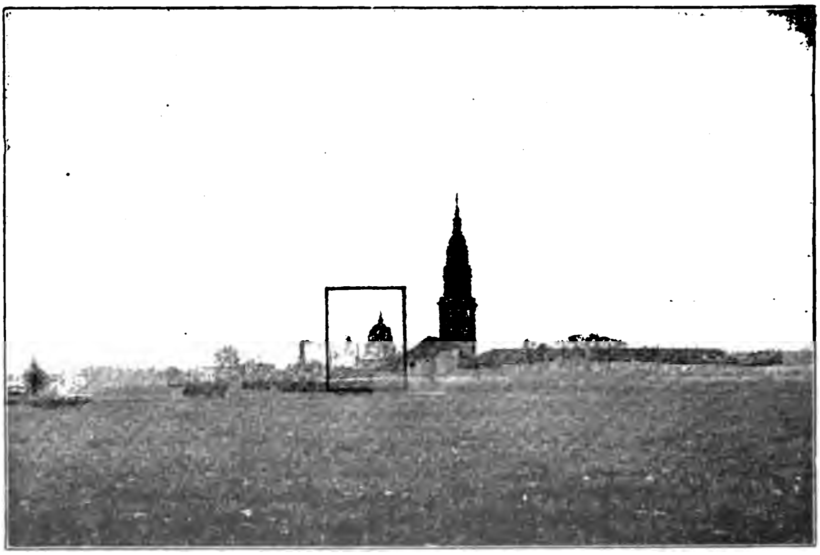

FIG. 1.—VIEW OF POTSDAM, NEAR BERLIN.

The objective of this apparatus consists principally of a convex lens of considerable length of focus and a concave lens having short focus. The two lenses are placed a distance apart corresponding to the difference of the two foci. According to optical laws this arrangement projects an inverted image of an object located a considerable distance from the convex lens. The size of the image varies according to the distance the lenses are held apart, and becomes larger on moving the lenses toward each other; the size of the image also depends on the relative proportions of the foci of the lenses—that is, the greater the difference between the foci, so much larger is the projected picture, the conditions being otherwise the same. For instance, if the relation of the foci is 25 to 1, the projected pictures are about 25 times as large as those projected by an ordinary lens, the distance of the object from the camera being the same in both cases.

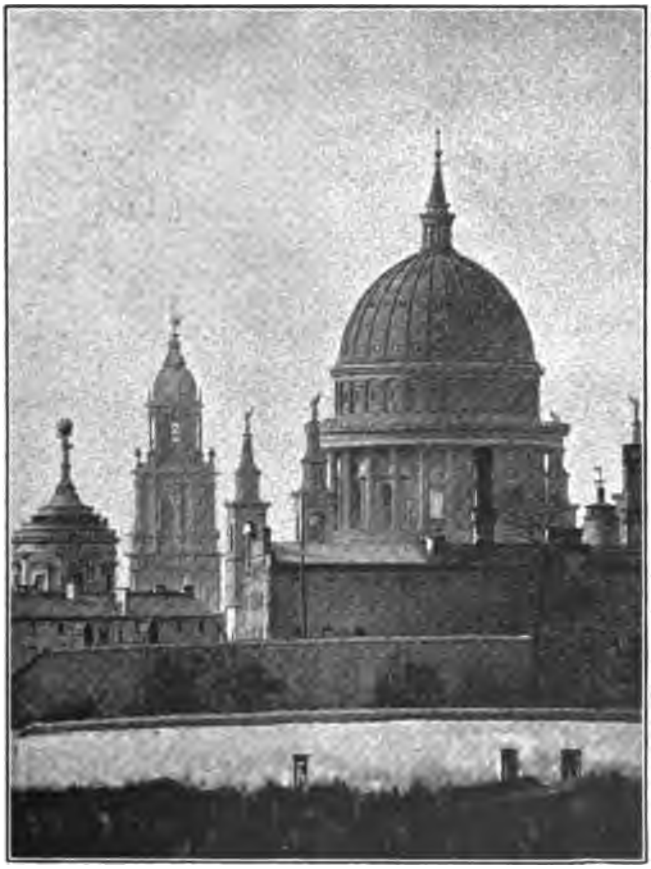

FIG. 2.—DETAIL VIEW OF THE PART INCLOSED IN BLACK LINES, FIG. 1.

In order to produce photographic pictures of a high quality by such a system of lenses the lenses must necessarily have a special form, and rendered achromatic by using crown and flint glass in the usual manner. The entire apparatus looks very much like a Galilean telescope.

By substituting an ordinary opera-glass for the objective on the camera, and drawing the bellows out as far as possible, a fairly good picture of a distant object will be produced on the ground glass of the camera.

The pictures shown in the annexed engravings were taken by the same camera placed in Figures 1 and 2, about two miles from the object, the city of Potsdam, near Berlin. For Figure 1 an ordinary aplanatic objective of 5¾ inches focus was used, and for Figure 2 Dr. Miethe's teleobjective described above, and with the camera drawn out to 10 inches. The part inclosed by the rectangularly arranged black lines in Figure 1 corresponds with the detail picture of Figure 2.

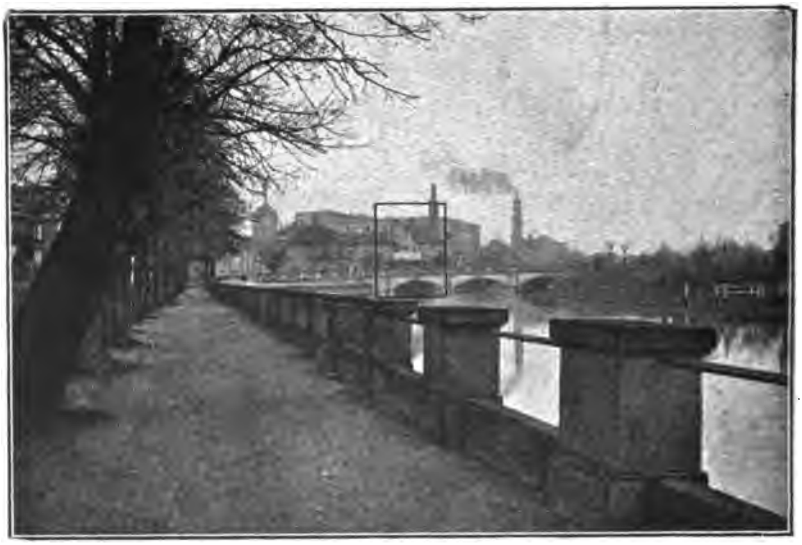

FIG. 3.—VIEW OF A RIVER WITH BRIDGE AND BREWERY IN THE BACKGROUND.

For taking the pictures shown in Figures 3 and 4 the camera was placed about 400 yards from the object—a river with a bridge and brewery in the background. The picture shown in Figure 3 was produced with an ordinary objective, and the part inclosed in the black lines forms the subject of the detail picture illustrated in Figure 4, and was taken with the teleobjective.

By a careful comparison of the pictures of the two sets it can be readily seen that the contours of the pictures remain the same, and hence the camera could not have been moved nearer to the objects for taking the pictures shown in Figures 2 and 4. TH. G. H.

The above illustrations were kindly loaned by the *Scientific American*.

Pyro Development and the Preservation of Pyro.

[Read before the Photographic Club of Baltimore City, February 2, 1892.]

BY W. B. BROWN.

I WOULD state that the subject-matter of the paper which I hereby present for your consideration is the result of my own personal experiments, extending over a period of several years, which though they may be known to some experimenters like myself, who have carefully investigated the subject and have arrived at the same conclusions, yet I venture to assert that, to the general body of amateur photographers and to many professional ones, the results of my experiments are entirely new.

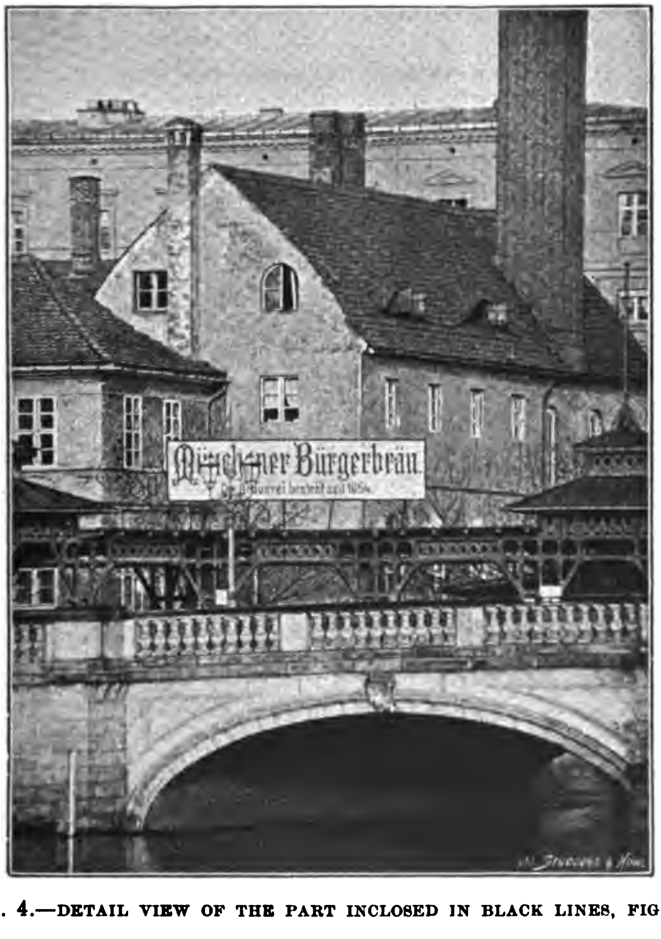

FIG. 4.—DETAIL VIEW OF THE PART INCLOSED IN BLACK LINES, FIG. 3.

After entering the ranks of the amateur photographers, I began experimenting with the different chemicals used in developing, hoping thereby to discover the reason why they were compounded in the proportion given in different formulas.

I tried developers with carbonate of soda as an accelerator, using from one grain to the saturated solution. I did the same with carbonate of potash, and I used ammonia in different quantities. I then studied the action of the bromides of soda, potash and ammonia. Finally, I began to investigate the cause of the decomposition of pyro in the ordinary stock solution.

How I discovered the method of preserving it is the real object of this paper, but at the same time I will give several formulas that I have used successfully, and the manner of this manipulation.

I was compelled to resort to a series of experiments too lengthy to be detailed in the present paper, the results of which I will endeavor to condense in as few words as will intelligently convey to the average amateur a plain and concise method, which, if carefully followed, will enable him to prepare a solution of pyro that will keep indefinitely.

I found from numerous trials that carbonate of soda decomposed pyro more rapidly than carbonate of potash or ammonia—ammonia causing the least decomposition.

In investigating how the different chemicals were manufactured, I found that sulphite of soda was made from carbonate of soda, and that it always contained a small amount of free carbonate of soda. Knowing that sulphite of soda tended to preserve and that carbonate of soda caused pyro to decompose, I concluded that it was the carbonate of soda that caused the decomposition of pyro in the ordinary stock solution. I reasoned that if I could obtain pure sulphite of soda, I could preserve pyro in solution. I began to investigate how I could prepare a solution of sulphite of soda free of the action of carbonate of soda. I tried the neutralizing effects of different acids without a satisfactory result. I was led to try alum from the fact that upon mixing a solution of alum and carbonate of potash, a frothy matter was formed. Curiosity led me to experimenting. I mixed alum with ammonia, carbonate of soda, sulphite of soda and other chemicals, and noted the visible result, and I concluded that alum neutralized alkalies. I then began a series of experiments with sulphite of soda and alum. I began with twenty-four ordinary tumblers, into each of which I put one ounce of distilled water, containing five grains of granulated sulphite of soda. Into the first tumbler I added one grain of powdered alum, two grains into the second, three grains into the third, etc., until the last tumbler contained twenty-four grains of alum, five of sulphite of soda, distilled water one ounce. Tumblers Nos. 1, 2, 3, 4, 5 and 6 contained a white precipitate, but in 7, 8, 9, to the 24th, there was no precipitate formed. Upon adding a few grains of carbonate of soda to tumblers 7 to 24, there was a frothy white precipitate. I siphoned off the clear solution from tumblers 1 to 6, and added carbonate of soda to it, but no matter how small or large the amount of carbonate of soda added, there was no precipitate.

After numerous trials I found that two grains of powdered alum neutralized the free carbonate of soda contained in five grains of granulated sulphite of soda sufficiently to keep pyro in solution. I found it best to use as little alum as possible in the developer. I did not find that alum had any other effect in the mixed developer than a retarding action similar to bromide, and a slight hardening effect on the film—the retarding being of value in over-exposure, and the hardening as a frilling preventer; but the influence is small. The compound of sulphite of soda and alum, such as I shall give further on, is of value only as a preserver of pyro in solution, and if properly prepared may be relied upon. Failure may be expected if a new bottle is used before it is freed from the alkali that adheres to the glass; and you must be correspondingly careful that an old bottle is perfectly free from all chemicals that decompose pyro.

I prepare the preserving solution as follows: 22 ounces distilled water in a chemically clean bottle; add 480 grains of granulated sulphite of soda, and shake until dissolved; then add 192 grains of powdered alum, and shake well, and add water to make a total of 24 ounces of solution. Allow the white precipitate, which will form, to settle perfectly. Siphon off, by means of small rubber tubing, the clear solution, and discard the precipitate. To the clear solution add dry pyro at the rate of 16 grains to each ounce.

This solution may be kept without the pyro deteriorating indefinitely, as I have a small quantity which was prepared over three years ago, and it shows no sign of decomposition. This sample I have already shown you.

The following is the developer that I use, but I do not claim anything extraordinary in its action. I have simply found that it suited my method of developing best, out of several hundred formulas that I have tried. It is as follows:

For a Carbutt "B," "Special," or "Orthochromatic," 5x8, take of the pyro solution already mentioned,

1½ drams, which equals	3 grains of pyro.
Granulated sulphite of soda,	36 grains.
Bromide of potash,	3 grains.
Dry carbonate of soda,	8 grains.
Dry carbonate of potash,	8 grains.
Distilled water (or any fairly pure water) to make	3 ounces.

The above is for one plate only. I mix fresh developer for each plate; consequently, I know just what to expect it to do. Instead of 8 grains each of carbonate of soda and carbonate of potash you can use 16 grains of either separately. If it is desirable to accelerate the action of the developer, you can use more carbonate of soda or carbonate of potash, or both ; but I would not advise more than a total of 30 grains if used separate, and 15 grains each if both are used in the same developer.

My experience has convinced me that more plates are spoiled by an excess of alkalies than from any other cause. I use the developer in the following manner : I flow the plate with the developer and wait until the image begins to appear, but before it obtains any appreciable density I return the developer to the graduate and flow the plate with an equal quantity of water. I rock the plate gently and wait until detail appears in the shadows. I then pour off the water and flow the plate with the same developer and wait until it obtains the proper density, which will be in about five to six minutes in warm weather and longer in cold. By the above method I get all the detail in the shadows without the high-lights becoming too dense.

I frequently develop two plates in the same tray ; when I do, I prepare just twice as much developer—that is, I double the quantity that I use for one plate.

Cramer plates require more pyro than any others that I have used. A 6½x8½ requires from 7 to 8 grains, while a Seed or Harvard, and Rowell & Allen, 5 grains; Carbutt B, Special and Orthochromatic, 3 to 4 grains ; Carbutt Eclipse, 4 grains. I prefer Carbutt plates, Seed 23 and Harvard 40 coming next in preference; but I am satisfied that if the proper formula is used, perfect results can be obtained with all other reliable brands of plates.

If familiar with the action of ammonia I would advise a trial of the following developer for Seed plates—good for Harvard, not very satisfactory for Carbutt, unless full timed, and absolutely worthless for Rowell & Allen plates—at least that was my experience with the lot I had. It made no difference what exposure was given, I could not obtain any image, while with carbonate of soda or carbonate of potash, or both, I had no trouble. It is as follows :

For Seed 6½x8½ :

Take of pyro stock solution 2 drams, equal to . .	4 grains.
Granulated Sulphite of Soda, ...	20 grains.
Bromide of ammonia, ...	3 grains.
Ammonia 26°, ...	3 minims.
Distilled or fairly pure water, to make	3 ounces.

Flow plate and manipulate the same as with the carbonate of soda developer. You can use just half of the amount of sulphite of soda given in the formula with little fear of staining, but with the amount given I have had my hands in the developer fourteen hours at a time without any appreciable amount of stain. I prefer the pyro developer to all others that I have tried. A great objection to its use has been its staining quality, which need not be feared, provided the proper amount of sulphite of soda is used.

Ammonia varies very much in strength, and weakens rapidly if the bottle remains uncorked; consequently you may have to use more than I have named in the formula, and if stronger than 26° you will find it best to use less.

I keep my solutions as follows; by so doing you can vary the proportion of the developer as you see fit:

Pyro as already given.

Bromide of potash	480 gr.	to 10 oz. of distilled water	— 1 gr. to each 10 minims of solution.
Bromide of soda	"	" " " " " " "	— 1 gr. to each 10 minims of solution.
Bromide of ammonia	1 oz.	" " " " " "	1 minim to each 10 minims of solution.
Ammonia 26°	1	" " " " " " "	1 minim to each 10 minims of solution.
Gran. sulphite of soda	4	" " " " " " "	— 4 gr. to each 10 minims of solution.
Dry carb. of soda	4	" " " " " " "	4 gr. to each 10 minims of solution.
Dry carb. of potash	4	" " " " " " "	4 gr. to each 10 minims of solution.

All chemicals should be thoroughly dissolved before flowing the plate. The cork of pyro bottle should not be handled with hands wet with the developer, as the alkali is liable to get into the stock bottle and cause decomposition—a precaution only necessary if it is desired to keep the pyro long.

In using the ammonia developer the ammonia should be the last thing added to the developer, and should not be allowed to stand long, as the ammonia loses strength.

I do not see that the preserving of pyro is of any value to the professional photographer, as he uses a great deal and mixes often.

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The Platinotype Process and the New York Amateur.

By Alfred Stieglitz.

IT is really remarkable how very few of my colleagues ever attempt to use the platinotype printing process for their work. Probably not one in five hundred uses it in this city, while in Philadelphia it is in general use for all fine work. For exhibition work it is indispensable, and the sooner the New York amateur makes up his mind that, in order to compete successfully with the Englishman, or even with the Philadelphian, in the large exhibitions, he will have to discard all albumen-paper, glazed aristotype (that *bête noir* for every fine-feeling eye), etc., and turn to either kallitype paper, or still better, to that prince of all processes, the platinotype. The latter being beyond a doubt a permanent process, it is preferable to the kallitype, inasmuch as the permanency of the latter is very questionable. Personally I do not believe it permanent, although more so than bromide paper.

I willingly grant that 99 per cent. of the negatives produced by the "camera artists" ought to be printed on a most *non*-permanent process, for the sake of coming generations; but such pictures have no business at a large public exhibition—hence we need not consider them.

The majority of New York amateurs seem to be under the erroneous impression that the platinotype process is one of extreme difficulty, and hence with his usual "go-ahead" spirit, he prefers not to tackle it.

In my humble opinion, it is not only one of the two (platinotype and carbon) finest printing processes we have, but undoubtedly the simplest and *quickest.*

My method of working is as follows: I always print in the sun, exposing the paper until the whole image, with the exception of the high lights, is faintly visible. For an ordinary negative that means from two to five minutes, between the hours of 10 and 2, at this time of the year. The print is then developed by drawing it, face down, slowly over the surface of a boiling solution of

Oxalate of potassium, - - - - - - - - - -	100 parts,
Water, - - - - - - - - - - - - - - -	300 parts,

avoiding air-bubbles, or even immersing it entirely in the same for about ten seconds, the picture by that time having been fully developed. It is then plunged, *without* intermediate washing, successfully into three baths of acidified water—

Water, - - - - - - - - - - - - - - -	100 parts,
Hydrochloric acid, - - - - - - - - - - - -	1 part,

for about four minutes each time, in order to eliminate any traces of iron left in the paper.

After the print has passed through the last acid bath, it is washed for a few minutes in running water, and then dried.

Now this does sound as if the process were not very simple and quick after all; and yet let me assure you that many of my prize photos, all of which are still in as perfect condition as on the day they were made, were turned out inside of fifteen minutes, including printing, developing, fixing, washing and *mounting!*

Try the process. It will be a revelation to every careful and earnest student of the photographic art who has not given it a fair chance.

In order to insure good results, fresh paper from Willis & Clements, Philadelphia, is necessary.

In the near future I hope to be able and let the readers of the AMERICAN AMATEUR PHOTOGRAPHER have the formulas, so that they may be enabled to sensitize their own paper, if desirable.

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Lantern-Slide Methods.

[Read before the Hoboken Camera Club, March 14, 1892.]

BY CATHARINE WEED BARNES.

THERE is a solid substratum of common sense in the prevailing favor with which lantern-slides are received. They have become an almost essential requisite in these days to any lecturer whose words admit of being made more impressive by adding the evidence of sight to that of hearing. Strangely enough, people will believe their eyes who doubt their ears. This fact being conceded, it remains for me to give some faint idea to-night of the great stature to which this work has grown, what it can be made to mean and a little—only a little—about how it is done. The old idea of the magic-lantern impresses those who give little thought to camera-work with an almost absolute conviction of its being a kind of trick, really sleight-of-hand or magic. And when they are told that lantern-slide work is a well-defined and not over and above easy branch of photography, requiring constantly growing experience and thoughtful care to accomplish good results, they smile indulgently, if they do not actually say they doubt your statement. One of the strongest reasons for slides being so popular is that so many more people can thus enjoy a picture than when it is in the form of a print, and still more that, with great care and trouble, it may be, one can sometimes obtain from a poor printing negative a respectable slide. This in many cases is valuable, as from it, if made by reduction and properly strengthened, a good negative of any size can be made. The objection that such negatives are usually blurred and indistinct in outline can be largely overcome by making the image on the slide as small as is consistent with clearness, focusing as sharply as possible, timing very carefully and using special pains in development. The advantage is that if such a negative is broken or injured, another can be quickly made from the slide, and where it is difficult to photograph the object over again—always best when that can be done—a camerist need not be at the risk of losing a valuable picture. This often means much trouble, but not necessarily great expense, and to lazy, trust-to-luck photographers who seem to expect their pictures to appear, like that described by Sam Weller, with "the frame and glass on complete, with a hook at the end to hang it up by, and all in two minutes and a quarter," I have nothing to say. It is always the workers who are most anxious to learn, and trouble to them is of little consequence when aiming at good results. In a recent volume by A. R. Dresser, the distinguished English slide-maker, he strongly advocates making slides in a copying camera, and it is gratifying to have my own opinion confirmed by such an able worker, for I do not like contact slides as a general thing. He goes to the extent of recommending the process even with negatives as small as 3¼ inches square. Some of the advantages in this way of making slides are that you can overcome defects in the negative, leave out any part if wished, enlarge or reduce as desired, and, what always seems miraculous to the uninitiated, make an exposure, develop the plate and make a slide from the wet negative in a very short space of time, which is, of course, impossible by contact. It is not necessary to have an elaborate outfit if you only have a good, short focus lens, but you must supplement it with a greater output of brain force to devise expedients for overcoming deficiencies in the camera, etc. In visiting a celebrated slide-maker's workroom lately, I was ashamed of my own expensive apparatus when examining the simple means he used. An old, discarded wet-plate camera, slightly altered, an ingenious arrangement for using any size negative and a fine lens—the whole was simplicity itself, and yet his slides are known wherever photography is—and that is saying a great deal. A somewhat similar apparatus is described in Mr. Dresser's book. I fully agree with the latter in laying stress on the position of the apparatus in the room, and noting accurately the actinic force of the light at the time. It is not understood by some how much exposure is hastened when snow has fallen, and how very useful is a ground-glass behind the negative, or the reason for placing the negative film side to the lens (otherwise the image on the slide would be facing the wrong way), or the absolute necessity for having the front of the camera square with the negative—in other words, how very easy it is to fail and then blame instruments, chemicals, maker or dealer and not the worker. One special object of blame is the plate, and each camerist has his favorite one, not that it is necessarily in itself the best, but with it he accomplishes the best work. It is, however, with some workers a case of love me, love my plate, and your judgment is sharply questioned if you are not able to do so. On my saying to a friend once that I did not like a certain make of plates, as the slides were too black and white, the statement was positively, very positively, questioned, and I was obliged to explain in detail that, whatever my informant's experience was, mine differed from it.

English plates are much slower than our own, four or five times as long an exposure being requisite, which seems to bear out the theory that in slide-work rapidity is undesirable, as the average of English slides are remarkably fine. As a rule theirs are denser than ours, but the shadows are generally clear. The American size, 3¼ x 4, has been adopted by some English plate-makers, but the majority of their plates are inconvenient for our lanterns, being both for plates and cover-glass square, solid, very substantial and apparently made with a glorious disregard of whether they suited any slide-carriers but English ones. We claim our way is more convenient, as it allows title and name of maker to be placed prominently on the cover-glass and gives more latitude in matting. We also mount our slides differently from foreign workers, and it would save much trouble if some general agreement could be arranged in these and other photographic matters. I spoke recently in Brooklyn on certain slide developers. It does not matter much which one is used if it is used intelligently; each has good qualities, but those are the best which are simple as to formula, cleanly in working and reliable in action. I do not like the caustic alkalies, as they are too severe on the film and utterly preclude anything like prolonged development, so essential to a good slide. With eikonogen, my favorite developer, I use carbonate of potash, saturate solution, and sulphite of soda in the eiko, which seems to keep well, if it does darken a little. The suggestion was recently made to me of using the new developer, rodinal, otherwise para-amidophenol, as an accelerator in eikonogen, and it was a success. Let me urge putting acid sulphite in the hypo bath, and always have a dish with saturated alum and a little sulphuric acid near it. Keep the bromide bottle "convanient," but not too much so, and use a dropper in the cork. See that for all solutions and washings either distilled or, at least, well-filtered water is used. It is my custom to keep a piece of muslin, filled with absorbent cotton, tied over the rose-sprinkler on my faucet, and it requires renewing every few days, as it gets black with sediment. In cold weather the water from the pipes should be warmed before use, else the chill will seriously retard development. In my dark-room is a gas-stove, and I generally, in Winter, heat water and put a little in the developer, but only just enough to slightly raise the temperature, remembering one sad experience when I saw the whole film slip off the plate. Overtiming, development only for detail and subsequent intensifyings, keeping the lights pure and the shadows clear, by judicious use of the alum bath mentioned, will give an interesting variety of tones, which is a relief from the monotony of the usual color of slides. Uranium and other salts are also employed in gaining variety of tones, but hand-painted slides must be exceptionally well done to be even tolerable. It is a curious fact that some pictures show much better as slides than as prints, especially where there are good distance effects; and at a recent exhibition a competitor who showed slides and prints from one set of negatives, received a prize for the former in preference to the latter. During my proposed photographic trip to England and Scotland this Spring and Summer, when I expect to attend the annual convention at Edinburgh, I shall make a study of the English method of work, and try to ascertain its true inwardness. But there is no earthly reason why, with proper patience and perseverance, any one who can make a good negative should not make a good slide. If prevented from using a copying camera, he certainly can make them by contact in any ordinary printing frame, but should back his plate with dark material, as frames generally are lined with white canton flannel. I would then advise their being made by gas, magnesium or electric light, which can be readily controlled. Some workers prefer artificial light in any case. Many of the societies provide facilities for this work, and I constantly wonder that it is not more widely taken up; but it is sadly evident that in every society a few members do the most of this work. While the claim is made still, and very positively, that a wet-plate slide is the only true one, all others being unworthy of consideration, yet high authorities all over the country are beginning to believe that just as good effects can be gained with dry ones. I do not offer those shown to-night as examples to be followed in every particular, but as illustrating certain artistic and technical points. The amateur, however, after going through all stages of the slide fever with ready-made plates, sometimes becomes fired with an ambition to coat his own plates. There are several ways of doing this, and all, though not expensive, are more or less troublesome; but the genuine camerist devoted to his work never knows when to give up and, as I can testify, never likes to own a positive defeat. It is a source of regret to me that I am prevented by urgent editorial duties from using my own emulsion closet. At present it is occasionally used to dry carbon tissue, and then only at intervals. I cannot understand those good people who wonder what there is in photography to make its devotees so very devoted, when discoveries and improvements are being made almost every day in its already wide field. Perhaps this is the more strongly impressed on me from the fact that so many instruments, chemicals, etc., are sent to an editor for testing, and the various photographic periodicals, foreign and American, fairly bewilder the novice with the extent to which the work is being carried. One very tempting path is in the direction of different printing methods, experimenting with new printing surfaces and developers, and here is where there is boundless capacity for improvement, while with slides there is less variety in the material used, but a great deal in how it is manipulated. Success is, however, impossible, unless one thoroughly believes that what he is doing is worthy of his best energies, no matter what the line of endeavor, but that blindly sticking to it will never accomplish anything really valuable. What is required is steady, wide-open-eyed perseverance and cultivation, not merely of one's artistic and technical vision, but a perpetual post-graduate course in accurate reasoning. The scales and weights on one's shelves then become something more than senseless machines, and are as symbols of the wonderful balance and delicate adjustment of the human brain. You will only get from photography that which you give it; but one can give a great deal, and if you make yourself believe that in it no art is possible, you will certainly never find any. He who seeks will find.

To succeed you must read intelligently, study carefully, believe it is worth while to give your best attention to camera-work and then translate your study into practice, watching critically every step and cutting places for your feet as do the climbers on the Alpine glaciers. No sudden flights of inspiration will carry you very far, although inspiration is needed sometimes to keep up one's courage. I wish to urge at the same time the never being satisfied with one's work. Avoid that as you would a pestilence; it is fatal to further progress. Your satisfaction will be like that of the five little green peas in Hans Christian Andersen's story, whose own tiny pod was all the world to them. While measuring yourself against others and learning to realize your own shortcomings, you will often find, by the great law of compensations, an unexpected balance on the credit side of your account, but it must be fairly earned. This talk has not been intended for a strictly scientific one, but only to show those of you who have paid little, if any, attention to this subject, that it is worth being well considered for the sake of the future before it and what can be made of it. Such associations as the Lantern Slide Interchange are doing much in this country and abroad to disseminate a great amount of knowledge, scientific, artistic and historical. The work can be made a valuable adjunct in educational training if used to instruct as well as amuse. It is fascinating work, and from personal experience I recommend it to all camerists, men and women, believing there should be no sex in photography, that each should bear the burden and heat of the dark-room, do the same work throughout, share equal criticism and receive the same reward.

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The Camera Bellows.

[Read before the Photographic Society of Kansas City, Mo., March 9, 1892.]

BY G. W. PEARSON.

I HAVE two subjects, both, as you see, illustrated. First, the making of a camera bellows. In one of the English photographic annuals I saw an article on this subject, which seemed so plain that, having some leisure, I was induced to try it, and the result is before you in a 10 x 10 bellows, which will open 18 inches, and is, I think, light-tight.

As the article I spoke of is probably not known to all of the club, I will give the gist of it in connection with the exhibit, and I specially ask you to reserve comment till I get through. First, it says, make a box the size you want the outside of your bellows, the sides true and smooth, and one carefully squared, the length 6 or 8 inches longer than you want the bellows. For the bellows provide a piece of silesia 4 to 6 inches wider than the length of the bellows, and long enough to go around the box twice and a little for lap. A sheet of strong hardware wrapping-paper, half as large again as the cloth, and a dish of thin glue, complete the material required.

Method of Making.—Wrap the silesia once around the box, joining the lap with glue; then cover this with glue, and make a wrap with the paper next (I think it best to put the glue on the paper). Cover the paper with glue and go around again with the silesia, we now have our box smoothly covered with two thicknesses of cloth and one of paper, and let it dry in this shape; which brings me to the first bone I have to pick with the writer of the article referred to.

He says: "Mark the partition of the outside folds carefully around the box on the cloth, then slip the cloth along till the first mark is exactly over the end of the box;" but he don't tell us how to slip it. The box, as you see, is fair and smooth, and I made sure that there was no adhesion anywhere; but the cover could not be induced to move. So I split one side of the box diagonally, the wood being fortunately straight enough to admit doing it; this enabled me to bring the sides together a little, and made the movement easy. Then, before folding, press the box back to place, and it will be all firm, repeating for each fold and, for greater security, tacking the last one or two to insure that the cover doesn't slip on the box during the folding.

Operation of Folding.—The writer referred to says use a spoon-handle for a tool. I used a screw-driver, which, taking care that it has no sharp corners, I think is better. Take a bellows to look at and notice how the folds are adjusted at the corners, then first, with the handle of the screw-driver, rub the cloth over the end of the box, forming a sharp, well-defined angle; slip the cover along one fold and repeat; now commence at the top of the box and fold the cover evenly, thus defining the inner fold and partly arranging the folds of the two top corners; follow with the sides and finish with the bottom. After going once around, the bellows are ready to come to place properly, and by going over it a second time, the folds can be made more uniform than by putting them clear down (as I did most of this) by going once around.

You will notice that this box has no stiffening pieces. These are not referred to in the article quoted. If used, the work would need to be laid out on the paper, and these pieces glued to it before the outer cover is put on; but we haven't got to this refinement yet, and when we do we will be more likely to get it at the dealers than at home. You will see there are places where the glue failed to make good bond between the cloth and paper, and the folds are rough and uneven, and the whole thing looks as if it were ten years old—so it is—and was before I commenced it. The cloth is an old piece which my wife allowed me to take from a waste-basket, the paper came around something which left more corners in it than there are now, and the outside was taken in like manner from an old, worn-out gossamer waterproof, the whole expense being two or three cents' worth of glue, and I let that get too cold, and made a careless job of putting it together. I did not get much of a bellows, but I did get some experience; as you see, I did not take pains, for I used material which was next to worthless, and did not expect even as good a bellows as I got. It may be of use with an enlarging camera, but none of us would care to see it attached to any of the polished mahogany cameras which stand around us. To make a good bellows, take good material and take pains, and you will have it. A further lesson to be learned from this is that of cost. Good material for such a bellows (cloth) will cost, perhaps, forty cents; with rubber outside, perhaps twice as much, and with leather it may be three times. Add to this anywhere from half a day to a day of time, and you have about what it will cost you to make such a bellows; and the dealers can well afford to sell at such prices, for their experience and facilities enable them to do the work so much cheaper, as well as better, than we can, as to afford a good profit at prices indicated in this manner. The same is true of many other things which, from the difficulty of procuring or cost, we are tempted to try to make for ourselves. I expected more leisure when I made this, but that suddenly came to an end, and I do not think the dealers will suffer much from my competition.

Recent Researches in the Solar Spectrum.

BY DR. L. H. LAUDY.

[Read before the Society of Amateur Photographers, March 22, 1892.]

IT would be impossible to attempt even an outline of the various researches which have been made upon the subject. In the limited survey of these researches we can only refer to some of the remarkable work which has been directed to this line of investigation.

That which is omitted is not the less important, but rather the want of space and time.

The study of the solar spectrum has led to an accumulation of interesting and highly important facts, which have added to our knowledge of the heavenly bodies, and made them yield tribute to our curiosity. The mystery of the invisible rays beyond the red and violet ends of the spectrum have been explored and fully explained both from a mechanical and photographic standpoint. Captain Abney, by means of special photographic method, has mapped with great success those regions that are as darkness in our eyes in the ultra red of the spectrum, and has made the photographic plates so highly sensitive that it responds to the long rays of red light hitherto regarded as unable to affect the silver salts.

Dr. Schumann has explored the extreme or ultra violent end of the spectrum, and with specially prepared plates has photographed the invisible lines extending to the lettered region L. M. N. O. P.

Professor Langley, by means of his bolospectrometer, has determined with great accuracy the actual energy of the radiation, and has produced curves extending far into the ultra red, independent of the eye or the sensitive photographic plate. The bolospectrometer is regarded as the most efficient optical and electrical combination that has ever been invented. By means of this instrument it is possible to measure and locate at will those portions of the spectrum which emit an infinitely small amount of heat which exists in the infra red and far below the region which the sensitive plate can secure ; for photography has not yet advanced beyond the upper portion of the great infra red, yet far enough to convince us that the whole of the spectrum is capable of affecting the sensitive plate. From the experiments of Professor Langley it is obvious that there is no necessity to retain the words "heat," "chemical" or "actinic rays," for all rays are alike in so far that some may cause a rise in temperature or produce chemical effect, but this depends upon the nature of the body upon which the rays fall. The most simple expression is that they carry energy and nothing else. If you demand it, we may call it radiant energy, but it is more simple to call it light, and talk of the heating effects in all parts of the spectrum.

With this instrument Professor Langley has measured the radiant energy of the relevant intensities of an Argand gaslight burner and the sun. The difficulty in all these dark heat determinations lies in the mapping of something which is wholly invisible, and until the invention of the bolometer there has been no means of measuring this invisible energy except in a rough way by the thermometer or thermopile, which gives unsatisfactory and incomplete results. The result arrived at in these determinations shows that only one per cent. is lost as dark heat, in comparison with the sun, which gave thirty-four parts as light and sixty-six parts as dark heat.

The most important and interesting of all the experiments of Professor Langley was the determination of the radiant energy of a Cuba firefly (*Pyrophorus noctilucus*). This insect is about an inch and a half long and one inch in breadth. It has three reservoirs of light. Upon examination two of these, which emit a yellowish blue light, are seen on each side of the prothorax. These lights shine from above. On the metathorax and first abdominal segment gleams another even more brilliant. It is this latter side which was measured. The amount of heat emitted by the insect was infinitely small, not enough to raise the temperature of the bolometer one two-hundred-thousandth of a degree C. in ten minutes, showing that nearly all the heat rays were absent, but the radiant energy was large in comparison with oil or gas, which is stated to be about one per cent., for an incandescent lamp about seven per cent.; the light emitted by the firefly was ninety-five per cent., and only five per cent. as dark heat. In all industrial methods of producing light there is involved an enormous waste, greater in low temperatures like the candle, lamp or gas. As has already been shown it exceeds thirty-nine parts in a hundred. The least loss is in sources of high temperature, like incandescent and arc lights. Even in these latter cases an immense amount is wasted as invisible heat. The light emitted is regarded as a chemical process and not a vital one. If such is the case, nothing forbids us to suppose it may one day be produced or manufactured. These observations I regard as the most advanced efforts of human genius.

The magnificent concave gratings of Professor Rowland may be regarded as the triumph of mechanical art (no less than seventy thousand of these lines have been ruled to the inch upon his new dividing engine), and the results obtained in locating and determining the absolute wave-lengths of light give a degree of precision and physical value never reached before. By the aid of photography and concave gratings the most accurate solar spectrum has been produced, exhibiting and dividing many of the previous single lines into two or three, and giving a definiteness and distinctiveness never attained before, and so much to be desired in this important work. With the aid of these wonderful gratings several investigators have re-examined the solar spectrum, aided by photography, to determine the existence of certain substances in the sun, and have found in many cases the lines fail to occur as matters of chance only, and therefore, if such is the case, prove nothing. Professors Hutchinson and Holden say that you can count a hundred or more of such coincidences without the slightest conviction that the connection is more than fortuitous. It is obvious from these experiments that a doubt exists as to the absolute coincidence of certain solar lines or terrestrial element. These non-coincidences seem to have been established by using spectra of greater length and purity, thus pulling the various lines from each other, and showing non-coincidence where coincidence was previously observed. This shows that many precautions are necessary before the coincidence of one line with another can be determined with absolute certainty even where large dispersion and stable laboratory conditions are employed. It is to be hoped that the searching and thorough investigations into the errors of previous observations may in some way disclose any inaccuracy which may exist. These errors reviewed intrinsically may not be great, but when referred to the whole line of research, they are of the utmost importance. In this line of astrophysics may be mentioned the important work of photographing the spectra of the stars. These investigations are being carried on at several of the large observatories both here and in Europe. At the Harvard College Observatory, through the liberality of Mrs. Draper, the work of photographing the spectra of the stars is being carried out as a continuation of the labors of her husband, the late Dr. Henry Draper. This department is under the supervision of Professor Pickering, and much excellent work has been accomplished in this line of research.

The Royal Astrophysical Observatory at Potsdam contains the most perfect and accurate instruments ever constructed for spectroscopic investigations. Among the most interesting instruments is a spectrometer carrying a train of nineteen prisms. Photographs of the sun are taken daily at regular intervals by the heliograph. A large spectroscope, especially designed for photographic work, is attached to the large telescope. The researches at Potsdam and Harvard College have already contributed to the most important and unexpected discoveries with regard to the double stars. These two observatories enter into the production of the International Photographic Charts of the Stars down to the fourteenth magnitude. The Potsdam Observatory is already in possession of its thirteen-inch photographic telescope, which has been mounted by Repsolds.

The latest edition in apparatus is the new vacuum spectrograph of Dr. Schumann. This instrument was especially designed for photographing extreme ultra violet of a hydrogen spectrum. The spectrograph is furnished with a seventy-degree prism and two lenses of 120 mm. focal length (5890). These are made of white fluorspar by Carl Zeiss. Quartz cannot be used, as it exercises considerable absorption above 1820. The records of this instrument are all photographed, and the exhaustion is done by a Geissler mercury pump. So far as possible the records of all these observations are secured by means of photography, as the skill of the artist is no longer accepted. No matter how high an estimate we may place upon the eye, a drawing is a mere matter of conception, and requires brain translation, which leaves no permanent record. It is concluded that photography preserves facts which are unbiased by personal defects, and convey to all future time a record of actual results which can never be obtained by direct observation. The question has been raised, are photographic records absolutely trustworthy representations? What is the extent of the truth, and what are its errors or mistakes? Its truths are so well known that we will not dwell upon them. As to its errors, they are due to two causes—distortion of the image, which may be either optional or mechanical. These defects may reside in the instrument for producing the image and destroy it before reaching the sensitive plate, or the effect may lie in the film upon the plate. Both of these defects are easily detected and corrected, and at the present time photography occupies a position in every well-equipped and progressive laboratory of scientific research. Besides being an important adjunct, it has the power to measure beyond the limits of vision that portion that the eye fails to respond to. The sensitive photographic plate, in some still unexplained way, has the power to register this form of energy, which is in no way perceptible to the sense of sight, thus penetrating into darkness and revealing the hidden treasures of the unseen world.

Following the address, Dr. Laudy made a number of interesting experiments, explaining wave lengths, refraction, dispersion, interference, the passage of light through a prism, the recomposition of light, various forms of prisms, the different kinds of spectrums, the construction and uses of the spectroscope, the solar eclipse and its peculiarities. By slides projected on the screen he showed the coincidence of the bright lines of oxygen with the bright lines in the solar spectrum; of Langley's bolometer or actinic balance, said to be the most sensitive device for measuring heat ever invented; of the Cuban firefly; of diffraction gratings; of apparatus for photographing the solar spectrum; of star photographs; of spectroscope attachment to the Lick Observatory; of the Rutherford spectrum, and the Rowland spectrum.

Editorial Comment.

Our Illustration.—Our frontispiece for this month is intended to illustrate a line from one of the most sublime and at the same time pathetically tender of the Psalms, "He leadeth me beside the still waters." The stream is one of the numerous picturesque ones in Dutchess County, N. Y., and bears the not euphonious title of "Wappinger's Creek." The lens used was the new Zeiss anastigmat, and the plate was a Stanley. The reproduction is exceedingly well done, and preserves the carefully managed perspective and gradation of tone in the negative. We feel our readers will be moved to take their cameras and try their fortunes likewise, now that Spring is upon us, the best photographic season of the year.

Photography at the World's Fair.—Our readers have doubtless noted with interest the attitude the authorities in charge of the World's Fair are taking toward the right of the amateur to photograph on the Fair grounds.

In reply to a communication addressed to the Ways and Means Committee as to whether an exhibitor would have the right to photograph his own exhibit, if he knew how, or whether any of his friends could, and to explicitly state what was proposed to be done, our Mr. Beach, as corresponding secretary, received the following response:

OFFICE OF THE WAYS AND MEANS COMMITTEE
OF THE WORLD'S COLUMBIAN EXPOSITION,
CHICAGO, March 28, 1892.

F. C. BEACH, ESQ.,
Corresponding Secretary Society of Amateur Photographers of New York.

DEAR SIR: In reply to your communication of March 16th I have to inform you that the regulation which you quote applies to persons who are granted a concession to do photographic work in the Exposition.

It is the intention of the Exposition to sell the concession to a limited number of persons or firms, who will have the exclusive privilege of doing the entire photographic work. All visitors desiring photographs will be obliged to patronize these grantees. An arrangement is anticipated whereby such grantee will have certain territorial rights so far as photographing of exhibits is concerned. They will probably be allowed, however, to take outdoor views of the grounds, their sales to be restricted to the territories above indicated. It is the intention that such parties, and only such parties, will be allowed to do any photographing whatever upon the grounds, the Exposition, of course, reserving the right to do such work as may be necessary for historical purposes.

Amateurs will not be permitted to go around the grounds and take such views as they may see fit. It is the opinion of the committee at present that all photographing, except by grantees and the exposition authorities, will be absolutely prohibited.

The concessions will be disposed of to the highest bidders who are capable of carrying out the contract providing for the work which they may anticipate

As to the number of grantees, they may range from two to five ; that has not been fixed.

Trusting the information covers the point which you inquire about, we are

Very respectfully yours,
SAMUEL A. CRAWFORD,
Secretary.

The letter clearly shows the intent of the committee to evade the point of permitting persons to photograph who have no desire to sell their work, and who would agree not to. It insists on holding that whoever wants to photograph must necessarily want to sell their work.

Since the committee is organized for the express purpose of securing all the revenue possible out of every enterprise connected with the Fair, it is, perhaps, the only position it could take. But it is very amusing to observe the studied effort to link with the words "photographic work" the idea that it is a special concession, which must mean that the parties desiring it want to make all the money out of it they can. It is also interesting to note the plan for dividing the grounds into certain sections, restricting each party to make and sell views in his particular section. How about the buildings and objects just across the division line ? A. could stand his instrument on B.'s territory and photograph across the line without infringing. He would be entitled to take in all his camera and lens would sweep, and for distant objects could bring into use the new teleo-lens, the work of which will be seen in the article on "Distance Photography" in our present number. We think it is going to be difficult to handle four or five different concerns as proposed ; there will surely be a conflict unless they all agree to pool their interests, which is probably the way it will turn out. We hope whoever is granted the concessions will provide commodious dark-rooms for amateurs to work in. It is probably intended that amateurs and others shall purchase from the five different owners of concessions the right to photograph in their respective territories. This point we shall find out later. Another feature which would be valuable and useful is the right of any exhibiting manufacturer of photographic instruments to sell his goods with the understanding that the purchaser will be entitled to photograph in the exhibitor's territory without further charge. But the true and most popular plan would be for the Fair authorities to employ enough competent photographers to make pictures for them, having stands at important places for their sale; then to grant permits to all responsible applicants for the right to photograph, but not to sell, for a limited time. Then erect special accommodations for photographic work, or let the amateurs do it, and rent the rooms for so much an hour, day or week.

This would give photography free scope, which is demanded by all sincere amateurs, and would in the end probably bring in a larger revenue than the present proposed restrictive policy. When we consider the hundred or more different or improved devices for making photographs and the immense popularity of the amusement, its almost universal practice, we can in some degree determine the extent of the trouble there is going to be in hedging about photographic work as is now suggested. Perhaps through the World's Fair Commissioners, by concerted action of the various clubs, some proper recognition of the rights of the amateur may be secured; we shall spare no effort to obtain this end.

We give below extracts from the press of interest on this subject:

Mr. F. C. Beach has written to the Board of Management of the World's Fair to ascertain if amateurs are to be allowed to photograph within the grounds. No reply can be given at present; but it would seem that even if an exclusive privilege is given, amateur photographers, on presentation of their tickets of membership, should receive a permit after signing an agreement not to sell their prints.—*Cincinnati, Ohio, Times-Star.*

The amateur photographers are agitated because the Commissioners of the World's Fair have refused them permission to make photographs inside the grounds, for fear they will sell photographs. The ruling seems to be penny-wise.—*Rochester Chronicle.*

Annual Joint Exhibition.—The secretary of the Boston Camera Club informs us that a number of entries have already been received for the May exhibition, and they have also had notice of a shipment of prints from a New Zealand club. He speaks as if the success of the exhibition was likely to be very great. The prints will be hung in the beautiful Art Building in Boston, where they will have great advantages of light and position. Although somewhat late in getting started, the New York society can bring considerable work together by a little extra exertion, which, we trust, will be made, and that it will worthily show what the members are able to accomplish. These exhibitions are important helps to those camerists who really love their work and desire to improve it, so that they should be encouraged in every way possible.

An Improved Lens.—There seems to be no end to the wonderful discoveries being made in optics and chemistry and in improving the facilities for working in those branches. A notable instance is a lens which has been sent us recently for testing. It is made in this country of the Jena glass—single, rapid rectilinear and wide angle—and does, as its makers claim, work, with full aperture, sharp to the edges of the plate. The three classes are quick-working, give brilliant definition and flat field, and those of long focus are something like the new lens of Dallmeyer, which is making such a sensation abroad.

The great value of the lens lies, however, in an attachment which can be put in place of the rear combination, and produces actinically modified rays of light, thus reducing harsh contrasts and obviating in portrait work the necessity of retouching. The results, as described, are remarkable, and give much the same effect as orthochromatic plates. We have only tried the ordinary rapid rectilinear, but have ordered the violet light attachment, and Miss Barnes will probably use the lens on her European trip the coming Summer. Further experiments will be given our readers when the lens has been thoroughly tested, but it seems to have great possibilities.

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RECENT EXHIBITIONS.

ANNUAL PRINT EXHIBITION OF THE NEW YORK CAMERA CLUB.

The New York Camera Club held an exhibition of prints from March 23d to the 31st, inclusive. It was the best ever held by the club, and a marked improvement on that of last year. Among the most notable exhibits were the pictures in Frame 3, by Mr. Charles F. Zabriskie, which were good examples of aristotype paper, though printed a trifle too dark. The only objection to his Frame 75 was that there were too many prints crowded together, which bewildered the eye. Mrs. Lounsbery's work showed careful posing and technical execution, but would have shown to more advantage if there had not been quite so many in the frames. The centre picture was the best in Frame 17, but would have been improved by a more simple background. Of No. 10, by Mr. W. Townsend Colbron, the first portrait was the better of the two. Frames 12 to 16, by Mr. William A. Fraser, were each and all examples of work which could be carefully studied by all camerists who attempt flower pictures. They showed very plainly not only the beauty, but the necessity of orthochromatic plates in this branch of camera work, and were the finest examples we have ever seen. Miss Frances V. Stevens' work, in Frames 20 and 24, made one wish that the pictures had been larger, as the views were well selected and finished. The pictures in Frames 21 and 22, "Souvenirs of Portugal," by Mr. David Williams, president of the club, besides being excellent subjects, were fine examples of silver prints toned with platinum, as was also "Old Stone Bridge," by Mr. H. B. Reid. Mr. Franklin Harper showed some characteristic Adirondack scenes, well composed and finished, and also a good example of the Obernetter paper in "San Juana River, near San Diego, California." The copies of old portraits, Frames 28 and 32, a difficult task, by Mr. William Bunker, were unusually excellent. No. 103 would have been a beautiful picture, only it was underexposed. This may, however, have been caused by under-printing. Mr. Lindsay C. Ivory's pictures, in Frame 29, would delight the lover of forest sports and, as a whole, were exceedingly well done. No. 100, also by Mr. Ivory, is an excellent example of work on the new Manhattan paper. No. 35, by Mr. A. Willard Bates, Jr., would have been improved if the whole figure could have been shown, but, as a copy of a painting, this could not be helped, and the picture is very pleasing, though not as good as No. 41. "Oriental Life" is another copy, and is very well done. "October," Frame 37, by Mr. Edward H. Graves, is a very fine piece of work, technically and artistically one of the best things shown, and No. 43 is a good companion for it. No 104, if not quite as pleasant a subject as his other work, is just as well carried out, and Nos. 109 and 110 were also good. Mr. Graves, it seemed to us, had some of the most pleasing work in the exhibition. In Frame 38 Mrs. Jonathan Thorne, Jr., shows some original posing, the best of her pictures being "Rough and Ready," a large head, which, though rather large for the plate, was exceedingly well done, while the best, in Frame 65, was "Arrived at Last," though the left arm of the figure was rather stiff, owing probably to the material of the drapery. Altogether the best of Mrs. J. S. Day's work, Frame 44, is the "Midday Meal." Frame 46, by Mrs. H. W. Cannon, shows four pictures, of which No. 2 is the best, and those in Frame 47 would have been greatly improved by a longer exposure and slower development. In Frame 52 Mrs. Willard Parker's work looks as if the negative had been somewhat overtimed. The prints would have shown better in platinum, kallitype, or bromide toned with para-amidophenol. Of Mr. William J. Cassard's work, "Lilies of the Valley," in Frame 57, was the best, but the others appeared a little too strong in contrasts. Miss Mary E. Martin's "Sheep Studies" (platinotypes) were exceptionally good, and the mere question of color could not have rendered the effect any more artistic. They made one think of Verboeckhoven's best paintings. In Frames 66 and 69 Mr. James L. Breese showed several carbon pictures, which indicate that he has succeeded unusually well in a very difficult, but, which seems to us, a most beautiful line of printing. Mr. Samuel W. Bridgham's Frame No. 70 was well named "Odds and Ends," but they are, as a whole, well selected and combined. Mr. Guy Phillips' pictures, in Frames 72, 73 and 78, are better composed than his other work, and are also technically good. Mr. Henry R. Taylor's yacht pictures are well taken, except that Nos. 81 and 82 are too large for the plate. No. 90, also by Mr. Taylor, is a characteristic Mexican scene, and No. 94 is a very fortunate picture in that he has succeeded in getting a very good cloud effect. Of Mr. J. Howard Wainwright's work, the best is No. 89; Nos. 85 and 86 seemed to us overtimed. His work was plain silver prints. The interiors by Mr. William E. Bond are undertimed, showing too strong contrasts, and would have been greatly improved by a more careful arrangement of the furniture. Where it is necessary to include so much in a room, it would be better to use a smaller lens. Interiors are very difficult to photograph, and demand not only great taste and judgment, but great patience. In Frames 99 and 102 Mr. Charles W. Stevens shows some very excellent platinum prints, but we believe that they ought to have been at least 5x7 prints to properly show the beauty of the subjects. The best of Miss M. L. Ewen's work is No. 115, "Ready to Embark." Nos. 116 and 117, by Mr. E. N. Dickerson, were exceptionally fine examples of portrait work. The exhibition opened by a private view to members and special friends, and the society has every reason to congratulate itself on its very positive progress in camera work. We noticed in the neat catalogue furnished to visitors that there was an Exhibition Committee of gentlemen, and a separate one for ladies. This, it seems to us, was not advisable. The representation by the latter workers is too good for them not to have equal place with the gentlemen.

OUTING FOR APRIL.—This number contains an article by Thos. Stevens, "Across Europe in a Petroleum Launch;" "A Mexican Story," by Edward French; "The Evolution of the Forty-six Footer," by Geo. A. Stewart, and the serials now running, lose nothing in interest. Various field and road sports are well described, especially "A Cyclist's Visit to Rip Van Winkledom," by J. H. Sharpe, and the Record pages are especially good. As Spring approaches OUTING seems to increase in value to all those who believe in the health-giving and mentally bracing influences of outdoor exercises, and more valuable features are promised for the coming month.

Society News.

[Under this head we propose to publish all society matters of scientific or technical value which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—*Special Exhibition of Lantern-Slides, March 4th.*—The exhibition comprised the set of one hundred slides contributed to the Conference Lantern-Slide Interchange by the California Camera Club, and was named "Picturesque Oddities." The work as a whole was very good, and covered a great variety of subjects, illustrating street life in San Francisco, the old missions, glimpses of Chinatown and opium-dens, the picturesque scenery in the valleys, several curious animal studies, the Yosemite and a few views about Lake Tahoe.

Tuesday Evening, March 8th, Regular Monthly Meeting.—Vice-president Robt. A. B. Dayton occupied the chair. The first business was a lecturette by Dr. Louis H. Laudy on "Daguerreotypes and Wet Plates," accompanied by an exhibition of complete specimens of apparatus necessary to operate both. His talk, he said, would refer to the youthful days of photography. He passed over its early history, but alluded to a few of the early dates. In 1791 Bolton and Wedgewood discovered the peculiar property of light in turning a prepared paper dark; 1802 Wedgewood prepared chloride paper; then followed 1814 and 1816, the discoveries of Niepce, and Daguerre experimented in 1833, but on February 6th, 1839, he published a description of making a picture on a metallic surface. Some allege that Fox Talbot preceded Daguerre, since he completed his process of making pictures on paper on January 25th, 1839, prior to the publication by Daguerre. But it is known that Daguerre experimented long before that date, the delay in the publication having only the appearance that the discovery came after Talbot. Improvements followed by iodizing and bromizing the plate over the vapors of iodine and bromine. The first plates used were rolled from silver dollars; then Jacob discovered the process of electroplating silver on copper, which materially reduced their expense. The silver surface was first cleaned with oxide of iron in alcohol and rotten-stone, and very finely buffed by a special buffer. Two buffers were used. An expert in buffing in those days was one of the desirable persons about a gallery. He exhibited the simple kind of camera used, and explained that it was necessary to employ a short-focus, large-aperture portrait combination lens. The exposed plate was developed over the vapors of mercury; an even temperature was necessary, and the plate had to be quickly lifted occasionally to see when the right color was obtained. When fixed, the image would be very white and glaring. But it was found that it could be toned, before fixing, in a gold bath to a mellow color more easy to look at, and this course was afterwards pursued; 8 x 10 was the largest sized plate made commercially, but in the Columbia College museum was one 12 x 16.

The apparatus exhibited formerly belonged to a Brooklyn photographer who undertook to revive daguerreotypes, but he soon gave up the idea and sold his outfit complete to the college. The last daguerreotype made with it, and believed to be the last ever made in New York city, was by Prof. Charles F. Chandler at the Cooper Institute some seven or eight years ago.

Gun-cotton was discovered in 1846; when transformed from cotton to the new state by treatment with nitric acid, it was found to be an explosive and was used as such. Mounard later discovered that gun-cotton would dissolve in equal parts of ether and alcohol, which was the basis of collodion. When spread upon a plate, the ether would evaporate rapidly and leave a smooth, transparent film. In 1851 an Englishman, Scott Archer, found out that by introducing an iodide into the film and immersing a plate coated with such a collodion into a bath of nitrate of silver, it became sensitive to light. Thus the way for the new wet-plate process was made complete. After exposure of such a plate in the camera, the image is developed with a solution of sulphate of iron, acidified with acetic acid and fixed with either hyposulphite of soda or, as was usual, cyanide of potassium. He explained in detail the chemical composition of gun-cotton, which he said was not thoroughly understood until within the last two years. He had pictures made by this process as early as 1855. The first trade pictures were called "melanotypes," and were made on iron coated with a black varnish, similar to the present ferrotype. Then followed the ambrotype, which was a thin negative made on glass backed with a black varnish. It was easier to make than a daguerreotype, and as it had not the polished lustre of the latter, it was very easily seen. He spoke of the troubles photographers had with the silver bath: sometimes it would give foggy pictures, and being little understood, would cause delay in the business. Frequently they would have to put out a sign, "No pictures taken here to-day," and send for what was then termed a "straightener-out," which we call demonstrator, to come and doctor the bath and put it in order. Two baths were finally kept mixed up, so that when one became disordered it was relegated to a good "sunning," and the other was put to use, the former bath being in the meantime rectified. Silver then was so expensive that very small baths were used, which was one reason why they would so quickly get out of order.

At first the glass was cleaned by polishing with powder, but later it was simply cleaned by soaking in an acid solution and then coated with a film of albumen, dried and coated with collodion. The substratum of albumen holds the collodion more tenaciously to the glass surface. The ferrotype succeeded the wet plate somewhat, and during the war a large number of photographers sprung up and followed the army, making fortunes with this kind of picture. It had the advantage of being quickly made, and could be delivered in fifteen minutes, which was just the thing for soldiers in those days. As there was no way of making duplicates, cameras were invented to take four pictures at a time, having four duplicate lenses. By three movements of the back of the camera a dozen duplicates could be made at one sitting. This camera was gotten up by Mr. Wing and had quite a sale.

The wet-plate process is now used almost exclusively in the photo-mechanical processes, since with it absolutely clear lines are obtained, which as yet do not seem to be attained in dry plates. The weak developed image is intensified to opaque blackness by a solution of silver and bromide of copper, which produces great contrasts. The process is likely to remain in use for this work for some time to come.

He had been asked many times by amateurs whether it was advisable for them to take up the wet-plate process for making lantern-slides. He replied in the negative. While he himself was loath to give up the process for slides, yet there was so much uncertainty about it, that he advised amateurs not to touch it, unless they wish to go into the making of slides commercially. His brother, who had made slides for a number of years by the wet-plate process, had given up the process two years ago, and since then had used nothing but the dry plates. In the first place, they were more uniform, and, in the second place, they were more sensitive and gave more latitude for exposure. It is very difficult now to tell a wet-plate slide from a dry-plate slide, as the perfection in making the dry plates and the improved developers enable them to compete very closely. At the close of his lecture examples of daguerreotypes and specimens of apparatus were shown and explained to the members, and a cordial vote of thanks was accorded him.

The recording secretary reported that since the last meeting two new active members had been elected to the society.

ROCHESTER HAND-CAMERA.

Mr. F. C. Beach exhibited an improved Rochester hand-camera (the illustration of which is here given), in which there were several simple contrivances for focusing and for operating the shutter. The camera is neat in appearance, well made and quite light to carry about.

As corresponding secretary, Mr. Beach read communications from the California Camera Club, explaining how satisfactory the lantern-slides of the American Interchange had been to the members; also, an invitation from the Salmagundi Club, inviting the society to give them an evening of amateur work; also, from the secretary of the Ways and Means Committee of the World's Fair at Chicago, explaining that it was very doubtful whether the amateur photographer would have any privilege of photographing on the grounds.

The recording secretary then proposed that the amendment to the constitution, which had been submitted to the previous meeting, be acted upon. The amendment was as follows: Section II. of Article 6 was ordered to be struck out and the following substituted in its place: "The annual dues of active members shall be twenty dollars, payable semi-annually in advance on the first day of April and October in each year; but active members who shall be elected after the first day of July and January shall pay four dollars, which shall be in full for dues until the first day of October and April respectively."

Mr. Dayton vacated the chair, which was then temporarily occupied by Mr. A. P. Schoen, and made quite an argument against the amendment, giving as his reasons that the present dues of the society were ample to meet the expenses, and that he could not understand why it was necessary now to raise them, as proposed. The recording secretary remarked that the matter had been carefully considered by the Board of Directors, and had been approved and should be sustained. The treasurer accorded with Mr. Dayton's views.

Mr. Yates moved that the amendment be amended by substituting the word "sixteen" for "twenty," which was, on a vote by roll-call, very nearly unanimously carried. Then the whole amendment, as amended, was also carried. The action of the society thus keeps the dues the same as formerly, making them payable semi-annually instead of annually, which, to many of the members, was thought to be an advantage.

Miss C. W. Barnes made a motion that a special committee of three be appointed by the chair to receive and forward exhibits to the Boston Exhibition, which was carried. The meeting then adjourned. After adjournment the chair appointed as a committee to take charge of the exhibits, Miss Catharine Weed Barnes, Mr. Alfred Stieglitz and Mr. W. F. Hapgood.

Friday Evening, March 18th, Special Exhibition before the Salmagundi Club.—Under the leadership of Mr. J. Wells Champney, a few members of the society entertained the club at its rooms, 49 West Twenty-second street, with their lantern-slides. Mr. Champney had arranged a selection from the slides owned by the society, and others loaned by Mr. E. Warrin, Mr. C. C. Roumage, Mr. Wm. B. Post, Mr. A. L. Simpson and Mr. Alfred Stieglitz. In addition, Mr. Muybridge showed several of his instantaneous studies, which were thoroughly enjoyed. Mr. F. C. Beach and Mr. A. L. Simpson operated a McAllister double-lantern loaned by Mr. E. Quackenbush, a member of the society, using in connection with it the high-pressure gas and a low-pressure dissolving key. The pictures, especially those showing any form of cloud effect, were greatly appreciated by the critical artists. Bold effects seemed to please them better than pictures crowded with detail. A very pleasant evening was spent.

Tuesday Evening, March 22d, Special Lecture.—In the hall of the American Institute, 113 West Thirty-eighth street, where the arc-light is used for the lantern, Dr. L. H. Laudy gave an interesting lecture on the "Recent Researches in the Solar Spectrum" (see page 161), illustrating it with numerous experiments. He had two lanterns in operation, one to show the spectrum effects and the other to throw enlarged images on the screen. Among the subjects of special interest were the peculiar-colored lines found in the spectrum of the silver salts. There was a good attendance, and the lecture was greatly appreciated. In the absence of the other officers, Mr. T. J. Burton acted as chairman.

March 25th, Regular Exhibition of Lantern-Slides.—The pictures shown were by the Chicago Lantern-Slide Club, the St. Louis Camera Club, the Photographic Society of Waterbury and by members of the society. In the Chicago set were a number of interesting juvenile studies, by Mrs. N. Gray Bartlett, of unusual excellence. Others were of views of California, foreign scenery and of scenes in Lincoln Park.

St. Louis had excellent views in Colorado, the Missouri River and numerous pictures in her celebrated botanical gardens and Lake Forest Park. Waterbury showed some very pretty landscapes, interesting camp scenes, and a special set of pictures, called a "Curbstone Transaction in Five Chapters," that were amusing, representing two small boys by a lamp-post on the curbstone. The first was called "Exhibition," second "Argument," third "Intimidation," fourth "Conciliation," fifth "Requiescat in Pace." Their pose and expressions were very characteristic of the young urchin. In the work shown by the society were excellent views of Niagara Falls, by Mr. Charles Schweizer; on the "French Broad," by Mr. D. K. Young; an excellent view of the recently stranded mammoth ship "Windemere" at Deal Beach, N. J., by Mr. Wickersham; studies of Norway life, by Miss E. A. Slade; attractive river and brook scenes, her "Seven Times One." by Miss C. W. Barnes, a charming moonlight effect by Miss Emilie V. Clarkson, and excellent figure studies.

Miss C. W. Barnes explained the pictures at the screen most acceptably to a large and appreciative audience.

DEPARTMENT OF PHOTOGRAPHY, BROOKLYN INSTITUTE.—On Monday evening, March 28th, Mr. F. C. Beach gave an informal lecturette before the department in the lecture-room of the Young Men's Christian Association building on Fulton street, on "Recent Developers." He spoke of the advance in developers, of their uses and of his experiments with para and eiko, showing that developing action is set up when sulphite of soda is mixed with these salts. He exhibited the latest model of the Hetherington magazine camera, which attracted much attention, having had added to it some important minor improvements. He also showed a model of the Rochester hand-camera, quite unique in some of its features, being light and conveniently arranged.

Then followed an exhibition of a few slides by New York amateurs, which included the work of Miss E. A. Slade, Miss C. W. Barnes, Miss Emilie V. Clarkson and Mr. Alfred Stieglitz. The merits of each were appreciated, though Miss Clarkson and Mr. Stieglitz appeared to have the best general average.

The department is to hold an exhibition of prints early in May.

PORTLAND CAMERA CLUB.—On February 9th a special meeting was called to view slides from Buffalo, Detroit, Hartford and Providence clubs. The high average of these slides was shown by the frequent applause.

On March 1st the regular monthly meeting was held at the club-rooms, President

Lawrence in the chair. Two new members were elected, and the third Tuesday in each month set apart for a club night, with a special committee of three appointed for this particular night. After a general discussion on the proposed Spring exhibition, to be held in May, the club adjourned to view the interchange slides from the Chicago and St. Louis Clubs. Among the many beautiful ones were noticed several "Scenes in Forest Park," "Mill on Floss," "Resting by the Brook."

Some of Mrs. Bartlett's slides were awarded first choice, and "Sunset at Sea" and "On the Alhambra Road" called for special mention.

At the next meeting Cincinnati and New Orleans, Waterbury and New Britain clubs' slides will be shown, and if the manager of the American Interchange is to be believed, we shall have that foreign set in the near future.

FRED BULLARD, *Secretary*.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting of the society was held Wednesday evening, February 10th, 1892, the president, Mr. John G. Bullock, in the chair.

The Board of Directors reported the election of the following active members: Milton Powell, M.D., Harry W. Hazard, Herbert Allibone North and H. B. Yerger.

The exhibition of the work of members in competition for the honor pictures for 1891 was opened on the evening of January 21st, 109 prints being exhibited. The votes were counted at the Conversational Meeting, January 28th, resulting in the selection of the following pictures: "On the Blue Juniata," by William H. Rau; "Navigation," by Robert S. Redfield; "The Loen-Vand, Norway, by Charles L. Mitchell, M.D.; "The Village Mill," by Charles H. Miller.

At the Conversational Meeting, January 27th, American interchange lantern-slides from Albany and Syracuse were shown. An illustrated lecture on "Switzerland—The High Alps" was given in the exhibition room on the evening of February 3d by Dr. Charles L. Mitchell. The lecture was complimentary to members and their friends, and was largely attended by a most appreciative audience.

The special Reception Committee reported that the new quarters were formally opened by a reception to members and their friends on the evening of January 21st.

The secretary announced that Mr. Ives had presented to the society, for its library, a "Catalogue of the Exhibition, Illustrating the Technical Methods of the Reproductive Arts at the Museum of Fine Arts, Boston." Though nominally only a catalogue, this book contained a great deal of information in connection with the reproductive processes.

The chairman stated that the committee appointed in April of last year to take into consideration the feasibility of starting a movement looking toward a uniform method of marking the sensitiveness of dry-plates, for various good reasons had not been able to organize; but a week ago the committee had been reorganized, and it was proposed to begin work in earnest. Dr. Ellerslie Wallace next read a paper on "The Fading of Silver Prints," which was discussed at length by the members.

Dr. Mitchell took exception to the reader's statement in regard to gelatine as a mountant. He was not quite so ready to ascribe the fading of silver prints to this source. It seemed to him that if gelatine possessed this property, it would affect the integrity of every emulsion that was made, not only for negative plates, but also the different forms of gelatine emulsions now prepared for aristotypes. If the mount was made with a common grade of gelatines, there might be injurious chemical substances in it, because it was well known that acid was used as a necessary adjunct in its preparation; but he very much doubted whether good gelatine would have the affect ascribed to it by Dr. Wallace. Another probable cause for the fading of prints was that they were not fixed long enough. It was much more important than washing. It was a very common habit to take a *negative* out of the fixing bath as soon as the color disappeared, thinking that it was fixed; but that was a wrong impression. It should either be allowed to remain five or ten minutes longer in the hypo, or be entirely transferred to a fresh fixing bath. He fully believed a good deal of the trouble in regard to the permanency of silver prints was due to insufficient fixing. He would add, in conclusion, that he agreed with Dr. Wallace in regard to the injurious effect of extensive washing. It tended to destroy the character of the image and also probably affected the permanency of the photograph.

Mr. Carbutt stated that during the Centennial he had quite a number of Irish views, the majority of which he mounted on thin glass plates with gelatine. It struck him that possibly the gelatine might absorb moisture, so he varnished the plates with collodion. When he last saw them they were unchanged. He had pictures purchased in Paris in 1862, which, when last seen, bore no traces of fading. Some of his own make, made in Chicago in 1862 or 1863, were just as fresh now as the day they were made—made, too, in the ordinary routine of gallery work, using carefully the best materials to be had.

Dr. Wallace asked whether the gelatine contained any glycerine. In the experiment he referred to the gelatine contained a proportion of glycerine.

Mr. Carbutt said he used no glycerine—only a plain solution of Nelson's gelatine.

Mr. Coates believed the trouble lay in the paper. The manufacture of paper within the last few years had changed very much, and it was hard to tell what they put in papers nowadays—anything up to old boots.

Some of the members referred to Dr. Wallace's remarks in regard to albumenized paper free from smell, stating that they had never come across a paper that did not smell.

Dr. Wallace said he could recollect the time when they could obtain from several dealers albumen paper free from smell—had no odor at all. He was in a position to know that prints made on paper free from smell would last fully as well as those made on the foul stuff made nowadays. He had been taken into a factory here where the albumenized trays smelt as sweet as though there had only been hot water in the pans. He knew that paper could be made not to smell. It would not decompose after being put on the paper, unless it were put in a damp place.

Mr. Cheyney said that about fifteen years ago he used to make a good many prints, and often had to make his paper himself; but even then, after being made a little while, it would begin to smell. He never in his life got any that did not smell.

Mr. Wood humorously remarked that if he came across any paper that did not smell, he should think there was something the matter with his nose. [Laughter.]

Dr. Wallace stated that he would say a word on the other side. A batch of paper he had once, as pure and sweet as so much writing paper, turned out to be the worst he ever had in his life. It was unevenly albumenized, but *it did not smell.*

Dr. Mitchell had seen it stated that in order to properly albumenize paper it should have undergone a certain amount of fermentation, and consequently decomposed to a certain extent. However, he had no practical experience in the matter himself.

Mr. C. W. Miller called the attention of the members to Mr. A. L. Henderson's communication in the Bulletin of the French Society, wherein he stated that it was impossible to make a good emulsion with nitrate of silver and gelatine *prepared together.* During the process the nitrate of silver and gelatine should never be allowed to come together, otherwise green and red fog would inevitably ensue. This does not refer to boiled emulsion, but digestion in twenty-four hours.

Mr. Carbutt said he had had a little experience in making emulsions and did not agree with Mr. Henderson's views. He had tried his method, and found it impossible to make a rapid emulsion with it. A good emulsion could be made with the nitrate of silver in contact with gelatine, and he had accomplished it in that way.

ROBERT S. REDFIELD, *Secretary.*

Illustrated Lecture on Norway.—It requires an exceedingly good lecture, combined with an easy, pleasant delivery, to hold an audience for nearly two hours. Such, however, was the case with Dr. Mitchell's lecture on Norway at Association Hall, Philadelphia, March 15th. The subject-matter was expressed in an interesting manner. There was no attempt at either forced humor or weighing down the spirits of the audience by an array of solid statistics, and the large number present must have been inspired with a strong desire to visit Norway for themselves. The views were well selected. In each case the point of view was carefully chosen and the negatives developed so as to bring out their best capabilities. The latter were made on orthochromatic films, and showed their power to bring out an exquisite gradation of half-tones and cloud effects. The slides were all made by reduction with that finished attention to every detail which marks Dr. Mitchell's work. It would almost have been a relief to be able to find some little fault; but the slides were technically as well as artistically beyond criticism. Considerable practical information as to travel in Norway was also given by the lecturer, aside from photographic suggestions. Among the best of the slides were the following: Several showing different kinds of characteristic traveling vehicles, distinctive types of the peasantry and their occupations, old buildings, fine mountain roads and glimpses of picturesque lakes, the wonderful grandeur of the countless fjords running far up into the land, and the severe impressiveness of the glaciers, which always suggest that line of Coleridge,

> "Earth with her thousand voices praises God."

Dr. Mitchell is known as one of our best slide-makers, and this lecture fully justifies his reputation. It was one of three entertainments given by the Photographic Society of Philadelphia to help defray the expenses of fitting up the society's new quarters. The last of these will be given April 5th by Fred E. Ives.

THE CINCINNATI CAMERA CLUB.—On March 25th the club gave a very successful annual exhibit of lantern-slides by its own members at the Odeon.

OAKLAND CAMERA CLUB.—This club has recently applied for membership in the American Lantern-slide Interchange. It has about sixty members, a fine lantern and some very enthusiastic lantern-slide makers. Being near San Francisco, it will enjoy the benefits of close affiliation with the popular California Camera Club. On March 17th it exhibited the slides of the London Lantern Society.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.—A meeting of the Executive Committee was held January 25th. In the absence of the president, First Vice-president F. Place occupied the chair. The resignation of the president, W. G. Entrekin, was received and ordered placed on file. It was decided to hold the next convention, from the 18th to the 21st of July, 1893, in the Second Regiment Armory, on Washington Boulevard, on the west side, in Chicago, Ill. The proposition of C. Gentile, agreeing to print three thousand (3,000) copies of constitution and by-laws free of charge, was accepted. The following committees were appointed: On Statue and Diamond Badge, F. A. Place; On Medals, G. M. Carlisle; Hotel, F. A. Place; Railroad, G. M. Carlisle. The grand prize will be a statue, to be given to the exhibitor having the three best photographs illustrating Owen Meredith's poem, "Lucille." The list of awards, rules and regulations, etc., of the convention may be obtained of Adam Heimberger, secretary, New Albany, Ind.

HIAWATHA CAMERA CLUB.—At Minneapolis the club was entertained on March 15th by an address on microscopical work, and Mr. Eidemiller gave a demonstration on the platinotype process of printing.

NEWARK HIGH SCHOOL CAMERA CLUB.—Twenty members went on an excursion up the Erie Railroad on March 26th and brought back many pictures.

NEWARK CAMERA CLUB.—On March 14th the slides of the St. Louis Camera Club and the Chicago Lantern-Slide Club were exhibited. On March 28th "Picturesque Oddities," by the California Camera Club, supplied a pleasant entertainment. The club is making arrangements for an outing on Decoration Day.

HARTFORD CAMERA CLUB.—On March 22d the club gave an exhibition of lantern-slides by its members. On the 25th another slide exhibition of work of the Boston Camera Club was given. The membership of the club is growing.

PITTSBURG AMATEUR PHOTOGRAPHERS' ASSOCIATION.—The association intends holding its sixth annual exhibition in May, opening on the 10th, and indications point to an unusually interesting exhibit. Messrs. W. J. Hunker, Joseph H. Hunter and Thomas K. Gray compose the Committee on Arrangements. Three gold medals are to be given : one for the most artistic picture ; one for the best set of six pictures telling a story, and the other for the best transparency, negative and positive to be placed on exhibition. A cash prize of twenty-five dollars will be awarded for the best general exhibit; a 5 x 8 Universal camera, which is offered by John W. Morrison for the best pictures in special composition, and a "C ordinary Kodak," to be given by the Eastman Company for the best collection of not less than six kodak pictures, any size.

HOBOKEN CAMERA CLUB.—A special meeting was held on March 14th, at which Miss C. W. Barnes read a paper on "Lantern-Slide Methods" (see page 155). At the annual meeting of the club the following officers were elected : President, F. A. Muench ; vice-president, A. L. Smith ; treasurer, C. L. A. Beckers ; recording secretary, Geo. H. Steljes; corresponding and financial secretary, R. Hartmann ; custodian, H. E. A. Wolff.

THE PHOTOGRAPHIC SOCIETY OF KANSAS CITY.—The second semi-annual election of officers was held at the studio rooms on the evening of March 23d. All the members were present, and after the usual routine business had been disposed of, the election of officers was held, resulting in the re-election of the present incumbents, as follows: President, J. P. Reymond ; vice-president, Dr. S. T. Stark ; secretary and treasurer. C. H. Clarke ; assistant secretary, L. D. Arnold ; Executive Committee : President Reymond, Vice-president Stark and Secretary Clarke. A number of important improvements in the studio were suggested and agreed upon, and will be made at once.

This society is now in a flourishing condition, holds regular meetings for the transaction of business on the fourth Wednesday of each month, and holds special meetings for entertainment and the discussion of photographic matters on the evening of the second Wednesday in each month. During the coming Spring and Summer the members of the society expect to take great interest in photographic work, and the studio will doubtless be crowded with enthusiastic workers most of the time.

C. H. CLARKE, *Secretary.*

BROOKLYN ACADEMY OF PHOTOGRAPHY.—During the month of February the academy had a number of lantern-slide exhibitions, which were well attended. On February 19th "Rambles in France," by Mr. Frank La Manna, was given, and February 23d "Berkshire Hills" was illustrated by Mr. Starks W. Lewis, while on the 26th Mr. H. P. Fullerton illustrated "Views in Mexico." These exhibitions, consisting mostly of work by the members of the academy, furnish an incentive to others to reproduce their work in the form of lantern-slides, and certainly such exhibitions are most entertaining.

At the regular monthly meeting on March 16th, James H. Stebbins, Jr., was to address the academy on the "Primuline Process," but unexpectedly went to Nassau on an outing and consequently failed to appear.

ALBANY CAMERA CLUB.—The regular monthly meeting was held on the evening of March 4th, President W. W. Byington presiding. The special business before the club was an informal talk by Mr. F. C. Beach on the "Latest Developers." It was much enjoyed by a large number of members. He related in a general way his experiences on developers, and gave his reasons for the actions of certain ingredients. (See March No.) After his remarks quite a discussion ensued on the action of various alkalies in the developers, and on the procedure advisable to pursue when a plate is greatly underexposed. Mr. Beach spoke of the various plans for bringing out the details on an under-exposed plate, but recommended, in general, where a plate is excessively underexposed that the best thing to do is to put it in the ash-barrel. A number of the members coincided with him in this opinion. He argued that if the light failed to have any time to appreciably affect the chemical compounds in the film, it would be impossible with any developer that might be employed to bring out an image. He stated further that if the developer was exceedingly strong in alkali and allowed to remain on the plate for some time, a chemical fog or veiling of the shadows was sure to take place. Dr. S. B. Ward stated that he had noticed also, when a plate had been over-exposed, a a similar veil would occur if a developer containing a slight alkali was poured on, and advanced a theory that such an appearance was possibly due to the reflection of the light after it had passed through the film back again to the film, or, in other words, that it was a sort of general halation, which is often observed around windows when taking interiors. After the address a special vote of thanks was accorded Mr. Beach for his kindness in speaking before the club.

At the close of the meeting the secretary, Mr. John S. Patterson, and Mr. M. H. Rochester, with a few others, started up the lantern, and the 1890 prize slides of the *London Amateur Photographer* were shown and greatly admired. Then followed a few slides by members of the club, and at a late hour sandwiches and a superior developer were indulged in. A very pleasant evening was the result, and mutual benefit was derived from each member relating some special experience.

The club quarters are divided into two portions. One long room is entirely fitted up with easy-chairs, and the walls are hung with the work of the members. One end of the room is finished up with hard wall, which is covered, when not in use, by hanging curtains, which are drawn aside when lantern-slide exhibitions are given or when slides are to be tested. The other room holds lockers and has conveniences for developing, and is equipped with a reducing camera for lantern-slide work. At the annual meeting of the club, on April 1st, the following officers were elected: President, William W. Byington; vice-president, Thomas S. Wiles; secretary, John S. Paterson; treasurer, Karl J. Phisterer; librarian, Robert Lenox Banks, Jr.

COLORADO CAMERA CLUB (DENVER, COL.).—The club has rented rooms in a central part of the city that were formerly used by a portrait photographer. They are admirably adapted for such an organization. The skylight is excellent, and the studio is provided with several backgrounds. It is intended to exchange slides with other clubs from time to time, and, eventually, it is hoped that the club will belong to the American Lantern-Slide Interchange. The president, Mr. W. H. Jackson, is thoroughly in accord with all the progressive movements of amateur associations.

The club celebrated the opening of its new quarters in the Williamson Block, Denver, Col., by a fine exhibition of lantern-slides, Tuesday evening, March 8th, 1892. Numerous photographic exhibits adorned the walls. Prominent and excellent were those of its president, W. H. Jackson, recent Mexican and Rocky Mountain views; H. L. Bellsmith, secretary, views of Mt. Shasta, Mexican bull-fights; Miss Hayes, a variety of fine landscapes; F.W. Hart, Maine landscapes and microscopic pictures. Geo. Russell, Geo. T. Platt, W. E. Perkins and C. D. Kirkland also added contributions of much interest. Excellent music was provided, and over two hundred invited guests and members were present. About twenty-five new members were enrolled, placing the club on a substantial basis.

LOWELL CAMERA CLUB.—The club proposes to provide new and larger quarters for its members, a number of whom are well-known among the foremost amateur photographers of the East.

It is intended to incorporate the club, and to provide special facilities for portrait-work, developing, enlarging, lantern-slide making and printing, as well as commodious lockers and other conveniences for the storing of apparatus of members. The club is to be congratulated on making a move to better itself.

ST. LOUIS CAMERA CLUB.—On February 4th the English "Photography" prize slides of 1890 were exhibited. On March 4th the club gave an exhibition of lantern-slides, comprising the work of the London Lantern Society, the Photographic Society of Philadelphia and the Joliet Lantern-Slide Club.

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BOOKS AND EXCHANGES.

THE PRINCIPLES OF A PHOTOGRAPHIC LENS. By R. & J. Beck, London, England.

It is a guide and price-list of the Beck Lenses, but, as its title states, simply explains the principles of a photographic lense, and is, therefore, especially useful to the amateur photographer. Among the points spoken of are: "Pin-hole Photography," "The Focus," "Depth of Definition," "Distortion," "Angle of View" and "Rapidity of Lenses," "The Use of Stops," "Use of the Swing-back," and descriptions of different kinds of lenses. The information is given in a concise but clear form. The pamphlet is especially useful to beginners.

PACIFIC COAST PHOTOGRAPHER.—This new addition to current literature on photography appeared on February 1st, and is illustrated with an albumen print. Subscription, $1.50 per year. Published monthly. 17 pages. Morgan Backus is editor, holding forth at 27 Main Street, San Francisco, Cal. We will club THE AMERICAN AMATEUR PHOTOGRAPHER with the new journal at $3.25 per year, and shall be pleased to receive subscriptions.

The Scovill & Adams Co. have sent us J. Traill Taylor's volume, "The Optics of Photography and Photographic Lenses." There is considerable vagueness of understanding among a very large number of those who use lenses as to their character and possibilities. A clearly written book such as Mr. Taylor's will go far to enlighten them, and we urge its being carefully studied. Short and long focus, construction of lenses, distortion, definition and the nature of the diaphragm are some of the points considered. The subject is so vast that a small volume can only indicate various directions in which the eager learner may find infinite store of knowledge, but the thanks of photographers generally are due the author, especially for his explanation of commonly misunderstood terms. No one who believes in photography as the child of science and art can afford to be without the help of this book, and we only wish there was more of it.

parts of glue and five parts of sugar. The glue is boiled until entirely dissolved, the sugar dissolved in the hot glue, and the mass evaporated until it hardens on cooling. The hard substance dissolves rapidly in lukewarm water, and is sufficiently softened by the warmth of the mouth for use on paper.

DUPLICATING NEGATIVES—It is frequently desirable to duplicate a valuable negative, especially if a large number of prints are required. A transparency is first obtained from the negative. A pyro developer seems to work the best to which is added a drachm of a 10 per cent. solution of sulphurous acid to preserve the purity of the whites. When the details are all out, the further action of the developer is stopped by the addition of a large dose of bromide, after which the function of the developer is confined to imparting density to the image that has been formed. The transparency is used in turn for producing a negative, the same precautions during development being observed.

DUST—The greatest enemy of the photographer, and it has to be fought and conquered, too, before a technically perfect photograph can be made. No matter what its origin, organic or inorganic, it is the pest to all photography, either in the preparation or development of the plate or in the atmosphere. It is an enemy, too, even before a picture is attempted, for it is no uncommon thing to find dust on the plates when taking them from their wrappers, and amateurs mar more plates (negatives) from this cause than anything else. Plates may be dusted before being put in the holders, and yet, on taking them out after exposure, the surface may be covered with fine particles, and the unwary one will find on development the image, perhaps, riddled with transparent pin holes, and wrongly blame the plate maker. Careful examination will disclose the fact that the greatest amount of the dust is at the end nearest the shutter of the holder This scrapes away most of the adhering dust from the slide, and, closing as it does with a snap, scatters it again upon the plate. The camera also collects dust, and in the act of extending or closing the bellows in focusing, the fine particles are set at liberty and are prone to settle upon the exposed plate when the slide is withdrawn. Careful and persistent dusting seems to be the only and sometimes only partial remedy. Dust the plates before placing them in the holder, it having been previously carefully dusted. Dust them before development, and even then dust sometimes gives rise to marks and spots, and the nucleus which is so often seen in the latter tells a tale of the mischief it causes. Dust the camera often inside and out, especially after the room in which it may be kept has been swept and dusted. The greater the victory obtained over this enemy, the more sure you are of obtaining a technically perfect negative.

DUSTING-IN PROCESS—The oldest of all the carbon processes, and by it a negative is obtained from a negative or a transparency from a transparency. This fact is well worth bearing in mind, as the powder process offers an excellent method of producing a reversed negative, *i. e.*, reversal of position—in the sense of making what was the left side appear at the right side and *vice versa;* not the so-called reversal obtained by giving an enormously prolonged exposure when, in place of a negative, a positive is produced such as is required for single transfer carbon printing aud photo-mechanical printing. It offers many advantages—to save an injured negative or correct a faulty one; by its means negatives of such feeble intensity and monotonous character that no satisfactory print can be obtained from them can, in a few hours, be duplicated and wonderfully improved. Higher density or reduced density is at the will of the operator. Local parts but insufficiently illuminated be developed to full extent and brought out better in fine detail. In fact, the whole negative can be corrected, improved, harmonized in artistic effects much better than by any other known method. The principle of the method is the same as that upon which carbon or pigment printing is based—the property of chromates to make gelatine, gum or sugar more or less insoluble in water when exposed to the light in a dry state for a longer or shorter time. These substances will lose proportionally to the exposure the power to attract moisture from the air, and become deprived of viscosity when a mixture of bichromate of potash and honey is spread upon a glass plate and exposed under a negative to light; those parts under the transparent portions cease to be adhesive, refuse, therefore, to accept powdered graphite and remain transparent. The other parts, those resting under the opaque portions of the negative, not acted upon by light remain in the natural condition, continue to absorb moisture, and graphite will adhere to them. At the beginning of exposure the adhesive property of the substance is merely diminished. It is thoroughly destroyed by a continuous exposure to intense light. Hence it is evident that, proportionate to the exposure, the most delicate details and the highest intensity can be beautifully reproduced, and a negative copy perfectly identical with the original be made. There is a multitude of formulæ for this process. Almost any organic colloid body which is hygroscopic, and which is rendered sensitive to light by the addition of a certain amount of bichromate of potash, or bichromate of ammonium, serving the required purpose. Generally honey is employed for the purpose stated, and to render it more solid gum arabic is added. The following will be found very satisfactory: Powdered gum arabic eight ounces, white sugar fifteen ounces, honey four ounces, alcohol four ounces, distilled water twenty ounces. After dissolving first the gum in the whole amount of water, the sugar and honey are added, slightly warmed, and when all is perfectly dissolved, the alcohol is added and thoroughly shaken up. The liquid should be kept in well corked bottles, and as it improves by age, a large quantity of it is prepared at once. The other liquid is a solution of one ounce of ammonia bichromate in ten ounces of distilled water. It is sensitive to light, and should be kept in the dark. Not being very stable, it is advisable to prepare only when wanted. To prepare the solution for coating the plates, take one ounce of the honey solution, put it in a glass and add two ounces of the bichromate solution ; dilute with three ounces of distilled water. Mix by stirring with a glass rod, and heat in a water bath to about 100°–120° F. Filter into another glass while still warm. Allow the solution to cool in a dark room, and let it stand for several hours (overnight). When standing for a long time, little clots will separate, which must be removed by filtering. The oftener the solution is filtered, the better it will act. With the final filtration the end of the funnel should be placed against the side of the glass receiver to prevent the formation of air bells, which occurs when the solution falls drop by drop. Cover the receiver while filtering to prevent dust. A plain parallel glass plate free from bubbles, sand grain streaks, or other faults, and larger than the copy to be printed from, is washed, dried and rubbed down with dilute potassium water glass or very thin collodion till perfectly clean and bright. After cleaning and polishing the plate a sufficient quantity of bichromated honey is poured upon it, and spread to the edges, the superfluous liquid allowed to drain by inclining the plate, and the surplus returned to the receiver. After coating, the plate is reared on edge by changing position. An equal division of the liquid upon the plate is promoted. It then should be laid horizontally, and by slightly rotating the plate a uniform coating is effected. When evenly coated the plate is dried at a temperature of from 122° to 150° F. It is best to dry them in an oven. A wooden box in which the bottom

(*To be continued.*)

Making Friends

THE AMERICAN

AMATEUR PHOTOGRAPHER.

A Monthly Review of Amateur Photography.

[illegible]

EDITORS.

[illegible]

[illegible]

An Amateur's Visit to Japan.

By Dr. Thomas H. [illegible]

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An Amateur's Visit to Japan.

BY REV. THOMAS H. STACY.

AS I attempt to describe a portion of my trip around the world, and especially my experience with the camera, let the reader bear in mind the fact that my knowledge of photography is very limited, that I am what the natives of India call a "padri"—and very busy. I had experimented for two years, as opportunity afforded, with this trip in mind, and had I understood the business better I should have done better work, but even to an expert artist the change of climate, atmosphere and light that one experiences in such a journey will make the work a constant experiment. A man must be a swift reader of the sky, as well as of people, to come to a quick conclusion on the different photographic adjustments —for the nimble Jap at the foot of snow-capped Fujiyama and the phlegmatic native in the golden sheen of Singapore or crimson glare of Egypt.

My home work had been done with a Scovill outfit, Waterbury lens, using a 5 x 8 plate, and after considering the matter on all sides, I determined to do my traveling work with the same instrument. It was bulky, inconvenient, often burdensome, especially when I had to take my plates in hand; but it was more satisfactory in results, I believe. My camera and I became traveling companions indeed, and when we had to part at Jaffa, on account of a shipwreck which we suffered there, I turned away from it as from an old friend. I took along ten dozen of the "Standard" plates and one dozen Cramer's. I used Cramer's in California; succeeded best with the "Standard," probably because I was more accustomed to them. They kept in perfect condition until I reached Palestine, where those that I had left were ruined in the wreck. It was well that I took plates along, for although fine photographs can be purchased in every country that I visited, and in large towns dry plates, yet the plates were usually of European make, and a 5 x 8 plate was not easy to find. I visited all the leading supply-houses in Bombay, both foreign and native, and could not find a 5 x 8 plate.

I left home October 2d, 1890, occupying the time between this and the 21st, when we sailed from San Francisco, in crossing the continent and in a few stops on the way. I did not know then that the Hudson between New York and Albany, that New York State and Michigan, that Colorado and California, Utah and Nevada, presented as beautiful and varied scenery, if not as novel, as any that I should see; so I determined to waste no plates on home scenes, and did not, with the exception of a few in California, which were very nearly *wasted.*

Our voyage across the Pacific occupied nineteen days and six hours, and was rather uneventful from a photographic standpoint, although I made some experiments. My work at sea was the least satisfactory to me of any that I did. On the Pacific I think my exposure was too brief, on the Bay of Bengal it was too long. This I did not learn at once, as I did not attempt to develop at sea. I exposed on the China Sea and put several plates into the hands of a photographer in Shanghai to develop, but he declared he could get nothing from them — a thing which never occurred during my trip when I developed my plates. I exposed on the Red Sea, and the plate came out well, but got broken at Jaffa — the only one that I had broken.

It is often difficult to know what to do for a dark room on board ship, especially where the staterooms are lighted by electricity and are not wholly separated by partitions to the ceiling. On the Pacific I inquired of the captain for a dark room, and he sent me to the doctor, "who was something of an artist." He told me of a "drying room" which was perfectly dark. I got the key and changed plates in the "drying room" one evening when the passengers were at dinner, and I could have plenty of time and not be disturbed. It answered my purpose, but I found the "drying room" a "sweating room," and was out of it as soon as possible, covered with perspiration. In a stateroom well separated from others one can get along by using a few blankets and coats for ports, keyholes and door-cracks. For a dark-room light I carried a couple of wax candles, some sheets of post-office paper; these occupied but little room and were easily arranged.

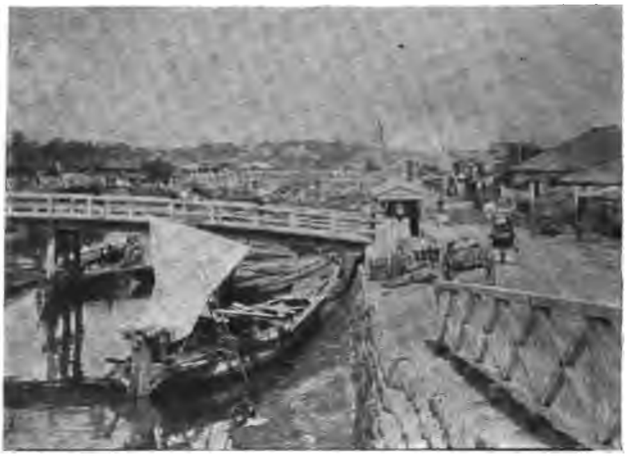
It is said that one's first impressions are usually lasting. I am glad that this is not true with my first impression of the Japanese. My first experience in Japan was not agreeable; it was at the custom-house and in connection with my photographic outfit. When we reached the "ha-to-ba" (landing place) at Yokohama, we were taken to the custom-house near by to have our baggage examined. Everything passed but the camera and plates; upon these I must pay duty, they said. I was ready to pay it, but they were not ready to receive it; papers must be got and signed, a declaration must be made, questions must be answered, money must be changed, I must go from window to window, from room to room, for about two hours in all, and when at the end I told a little black, snappy-eyed fellow the cost of camera and plates, he put on a third more and said "cheap enough at that"—he could talk some English. He insisted on opening my securely nailed box of plates to be sure that I had given him the exact contents, and stopped only when I informed him that he must make the box as good as he found it. The duty imposed was five per cent. on the value of the goods, if I allowed them to remain in the custom-house until the ship registered, but I paid ten per cent. and took them with me. Notwithstanding this disagreeable initiation into Japan, I was delighted with the country and the people.

Negative by William B. Post.

YOKOHAMA FROM "ONE HUNDRED STEPS."

Japan seemed to me like a fairy-land and the Japanese like fairies, and the greatest mistake I had made in planning my trip was that I did not visit Japan last and take it home with me—so I thought as I turned my eyes for the last time toward Nagasaki. The dwellings and stores are usually small —perhaps entered through a doorway from which the door slides back—the partitions are of paper or bamboo, the floor is covered with delicate straw matting, the streets are narrow but clean, the people small but bright, intelligent and very polite. With them a bow is more than a nod; it places the hands upon the knees and draws the face forward nearly to the ground.

The poorer class dress scantily. A coolie wears a tunic of thin stuff; perhaps he has on a pair of short drilling pants; he may be bare-legged. The waiter-boys at the hotels wear tunics and tights that cover feet and limbs at the same time, with a cleft between the two larger toes for sandals, which make one think of the cloven-footed, and so closely do they fit that one might easily imagine the legs to be melted and run in. A few of the men wear European clothing, but the greater part cling to their silken robes, which cling to them most beautifully. The women, in their many-colored silken robes, bare-headed, with rich obis, inevitable fans and umbrellas, clicking about the streets on wooden getas, add attractiveness to the novel scenery.



Negative by William B. Post.

THE CANAL AND STREET, YOKOHAMA

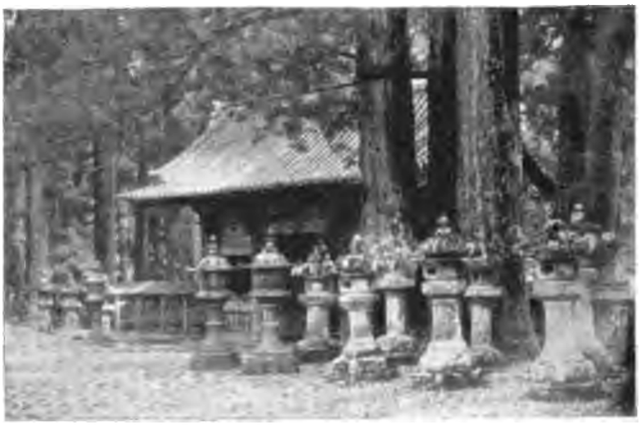
It seemed to be the duty of the young girls to care for the babies, for they are everywhere seen upon the streets with the babies upon their backs in well-wadded sacks. The houses are usually made of bamboo and mud, straw-thatched. There are some more substantial in the cities. A portion of Yokohama looking toward the bay from the top of "the hundred steps" is shown in the illustration. The building in the distance, with a round-topped tower, is "that custom-house;" near the centre of the view, to the left of that, the post-office, and still further to the left, the railroad station. Another view shows a noted canal in Yokohama, not far from the foot of "the hundred steps."

Among the fairy-like things in Japan is the jinrikisha. This vehicle reminds one of an old-fashioned chaise made very small, for usually it is only large enough for one, but occasionally it will carry two. It is usually nicely upholstered; the top will come over you or fall back, and when the fleet coolie gets between the shafts before you and whisks you about the streets wherever you want to go, it is very comfortable. At first it seemed rather inhuman for men to take the place of horses, but after a while I got used to it and imagined myself a great baby in fairy-land.

Loaned by *Outing*.

THE JINRIKISHA.

The Japanese are intuitive artists, although critics declare that their art consists in decoration rather than in composition. However, their art lives in their work—birds fly, fishes swim, flowers exhale fragrance. Photography is done most perfectly and beautifully in Japan. The galleries present almost faultless work, both in likeness and landscape; the water-colored photographs are often exquisite. I found at Farsari's a large collection of beautiful specimens of his work, and the same at Kimbi's. At the latter place I had some plates developed, and I was delighted with the work. I had my plates developed as often as convenient, for then I escaped all risks of injury from light and moisture. When I could well do so, I carried them to some photographer and let him develop them, as he had the facilities, and usually preferred to do it himself; although, after losing several plates in China, which I put into the hands of a photographer to develop at twenty-five cents each, I used the dark room of a friend and developed the remainder of my Shanghai exposures with good success. Amateur photography is so universal that if one has friends in foreign countries or letters of introduction he can find developing rooms in nearly every place where there are foreigners. I met a government official in Midnapore, India, who had rooms fitted up in his bungalow with all conveniences for developing and printing. Although he did this for recreation, his work was of unusual merit, especially his groups, of which he made a specialty, using a "Grubb" lens.



Negative by William B. Post.

TEMPLE AND STONE LANTERNS.

Everybody wants to see the temples, especially those of the Buddhists, for they are more elaborate, costly and beautiful than the Shinto temples; the latter are very plain, having few ornaments and professedly no idols. The Buddhist temples have a great deal of lacquer about them; even the floor of some of them is of this material, as smooth as glass. There is often a good deal of rich carving upon them and in them; vermilion, green, white and gold, color and ornament them. Nikko has the finest temples in Japan, but the temples of Shiba, at Tokyo, are elaborate and beautiful. The illustration shows one of these temples; the lanterns in front are of stone; the candle is placed inside, and when lighted, the light shines out through the openings, making a weird and beautiful appearance.

When this view was taken I devoted a half-day to Shiba. I went alone; was fortunate in my jinrikisha man, who gladly served as guide and helper, and really rendered valuable service in assisting me with my camera.

I had a laughable experience in the first temple that I entered. I had made all the exposures that I cared to, left my camera in care of my attendant and bounded up the steps of the temple in true Yankee style, but I hardly landed upon the delicate straw matting before I was surrounded by priests and attendants who expostulated with excitement. I could not understand what they said, but by nature's universal language, gesticulation, I learned that I must remove my boots so as not to tear the matting or scar the polished lacquer. Now, it happened that a good friend instructed me to take along a few pairs of old stockings that might be so impaired with age and use that after a week's wear I could throw them away without conscientious scruples, especially while at sea. I happened to have a pair of these on in a condition that would have pleased my grandmother when she sat down with scissors and darning needle, and I was to tread upon tickling matting and cold, glassy lacquer — ugh! The trick so common at the mosques in Egypt and Palestine, of providing slippers and compelling one to pray for them, would have been a relief; but the Japs had not learned it. However, a pair of boots could not stand between us and the delicate mattings, gold and lacquer of the Shiba temples, so off they came, to be replaced only when we went from one temple to another and after the round had been made.

THE DAIBUTSU.

The city of Kamakura, for four hundred years the eastern capital of Japan, is now a ruin. Here we find the Daibutsu (great Buddha), shown in our illustration. Satow thinks this image was cast in 1252. It has the following dimensions: height, 49 feet 7 inches; circumference, 97 feet 2.2 inches; length of face, 8 feet 5.15 inches; width from ear to ear, 17 feet 9.2 inches; round white boss on forehead, 1 foot 3.47 inches; length of eye, 3 feet 11.6 inches; length of eyebrow, 4 feet 1.98 inches; length of ear, 6 feet 6.54 inches; length of nose, 3 feet 9.22 inches; width of mouth, 3 feet 2.08 inches; curls (of which there are 830), height 9.52 inches, diameter 11.9 inches; length from knee to knee, 35 feet 8.4 inches; circumference of thumb, 3 feet. The eyes are of pure gold and the silver boss weighs 30 pounds avoirdupois. Upon either side of the gate, in front, are bronze lotus flowers; upon the thumbs stands Rev. Mr. Pitcher, missionary to Amoy, China. In the jinrikisha on the left is Rev. Mr. Sandford, my traveling companion, while at the right is my jinrikisha with my jinrikisha men. In a little building at the right were native photographers, who did a large business in taking views of visitors grouped about and upon the image; but I preferred to take a group that I could own. Kamakura is eighteen miles from Yokohama. Three of us rode out in jinrikishas, having two men to a vehicle, and found it a most delightful ride; to save time we returned by train.

A JAPANESE SHRINE.

The Japanese are very religious; their shrines and temples are scattered everywhere over the country, you hardly lose sight of one before you see another. They delight in putting these upon the hills, where they are reached by one or more flights of steps. Sometimes the way to them is straight; sometimes they are found by a more winding path, but the immediate approach is direct. The illustration represents a shrine with the direct approach to it up a flight of steps. This is a fair specimen of a shrine in the country or in a small town. A bit of landscape is seen here, also showing a few village homes with their gardens. I do not know why the people usually put temples upon the hills, unless they think to pay some of their debt of sin by climbing. At Kobe the "Moon Temple" is upon the mountain, 2,490 feet up, and is reached by a rough and precipitous path. We give a very good representation of the tori, which stands at the beginning of every path which leads to a temple or shrine. You may not see the shrine, but the tori assures you that if you follow the path you are sure to find one. It is sometimes made of stone, but more often of wood. These arches of double crosses are called torii, because originally they were perches for the fowls offered to the gods — not as food, but to give warning of daybreak. The illustration which is here presented was taken at Hommoko in a very quiet and charming spot facing the sea, which not only the birds might delight to visit and there wake the morning with their songs, but where the worshiper also, and the lover of nature, might be pleased to come often and linger long.

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Practical Slide-Making.

[Read before the Photographic Section of the American Institute, April 5th, 1892.]

BY CATHARINE WEED BARNES.

WHEN the request was made that I should say something to you on slide-making, it was suggested that not merely good ones be shown, but poor ones also, as in some sense a warning and example of what to avoid. The latter requirement has been easy to fill, as you will see for yourselves. I must apologize for some of the slides being familiar, but they fitly illustrate my idea; and if my talk is too technical, such is inevitable from the nature of the standpoint selected, and I realize that in addressing a body of practical workers, they want not fancy theories, but actual Gradgrind facts. Fortunately, when one undertakes to act as guide-post it is not expected the post should do more than show the way. It does not attempt to lead it. Pray remember this in considering the slides to-night. The sooner one learns in photography to look at his work impersonally, the better, especially when the technical side is to be considered, as on the artistic there is vast room for divergence of opinion. I preferred, therefore, to use my own slides entirely to-night, and be at perfect liberty to pick out the flaws without fear of hurting any one's pride. Indeed, I doubt if any one realizes them better than myself. If a slide is poor it is a reflection on the maker, and not a kindness to call the work good. Criticism is the very breath of life if one really desires to improve, and I make it a point to use a mental magnifying-glass on every piece of work which leaves my dark-room. "Why is this thus?" as one of our humorous writers has said, is constantly asked, and the answer sought with diligence. There is a reason for most failures, though time may be needed to show it; and I firmly believe not in blindly, doggedly pushing ahead, determined to force success, but in careful examination of every step forward, working slowly and persistently, never slipping back and covering with one's mental vision an ever-increasing angle of possible improvement. A friend told me recently of some one who had just begun camera work and was fascinated by it, but who, having decided in his own mind to use several minutes' exposure on outdoor work, kept on spoiling box after box of plates, refusing to learn from others' experience, and firmly believing that if the plates, developer, etc., behaved well, he would at last succeed. Another worker of considerable reputation told me that I could not convince him that when a negative was once transparent in the hypo, it was not thoroughly fixed. What can be said to such people? No ironclad rule can be devised for photographic work so long as human nature is so infinitely varied. Each one of us must be a law unto himself; and it seems unwise to try, as a rule, to follow implicitly the directions of any anthority, however excellent, but try the same for yourself, noting and comparing with your own previous experiences, and then sift out what may benefit you, even if the original deviser failed with it. We cannot all use the same tools. The plate which does fine work in one worker's hands will fail in another's, and so with the developer. Photographers have just as many and as marked mannerisms as painters, and in urging the necessity of sticking to one plate and one developer, I would warn against getting into a routine mode of procedure. A good copyist seldom does good original work. The quality of mind seems to be different in each case; but it is very easy (and we do love to save ourselves trouble) to sink into a kind of jog-trot style of working and not advance a hair's breadth.

In considering the first essential in slide-work—the plate—let me record my preference, as a general thing, for slow ones, though in all matters photographic the traditional grain of salt must be remembered. The plates should be fresh, more attention paid to cutting them, and the peculiarities of each make studied so as to properly suit each to the negatives. It is utterly useless to expect a good slide from a negative which is dense, under-developed and with harsh contrasts, though it is possible to get good results, with careful management, from a thin negative, if it has detail. Illustrations of these points will be given in the slides shown. In my experience, slight as that has been in duration of time, it has seemed as if certain plates had excellent qualities for landscapes, others for interiors or figures, as the case might be, and that certain developers had an affinity for special plates. I do not think this matter has hitherto been deemed sufficiently worthy of consideration, for many workers having grown accustomed to or being prejudiced in favor of some pet plate or developer, will look with scorn on all others. In preparing the slides for to-night some fine English plates were sent for testing, and I tried them under the same precise exposure and development as the American ones I usually prefer, with curious results. It was found necessary to give the English ones just three times the exposure of the American when a normal developer was used to gain similar effects. The English were beautifully even in quality and tone, without harsh contrasts, but, to gain density, had to be almost overtimed and developed very slowly. I am most positively against using old developer under any circumstances, and my custom has been to use eikonogen, without hydroquinone, which by itself I do not like, preserving it with sodium sulphite and combining it at the time of development with saturated carbonate of potash, in preference to a caustic alkali. Slides are too often spoiled by the excessive use of alkali as a means of accelerating development. If the plate is so much undertimed as to require forcing, it had better be quietly lost to sight; it has no mission in life. Far better to overtime and then hold back, not with that very convenient servant, bromide, but rather a weak developing solution, until detail is gained, and then use the full strength of the developer. I have found practically that with a good, clear, strong negative it pays often to place the plate, after a long exposure, in a dilute bromide bath for a couple of minutes before development. It is possible also to produce soft, beautiful effects by overtiming, and after development and fixing, intensifying two or three times in succession, clearing the shadows, if needful, in an acid-alum bath ; for whatever may be said to the contrary, the alum bath is not to be ruled out of court. I have taken dense slides made months previously and cleared them up in my sulphuric acid and alum bath, washed and then strengthened them in a silver bath so as to obtain brilliant slides, easily reduced, if necessary, in the alum bath, for hypo does not quite accomplish the same thing. My hypo bath is always combined with the acid-sulphite solution, and is made, as some cooks work, by instinctive judgment—it is never measured. Ferrous oxalate with me has been relegated to obscurity, not because it does not work well, but it is inconvenient.

Elsewhere I have spoken of the new developer, para-amidophenol and its concentrated form rodinal, which latter contains evidently a caustic alkali, but is useful as a density-gainer in eikonogen. Any of the various negative developers can be used for slides, but eiko is cleanly, easily handled and keeps as well as any. Some of my best slides were developed with the brown powdered eiko of about two years ago. There is almost infinite variety when it comes to toning slides, but I deprecate generally other modes of coloring them, as the result is so very often like that of a cheap chromo, and as to toning with any idea of getting any more out of a slide than there is in it, I feel like quoting from the "Biglow Papers":

> " A betch o' bread thet hain't riz once ain't goin' to rise agin,
> An' it's jest money throwed away to put the emptin's in."

One very important matter to consider is the light to be used in showing the slides. Most exhibitions are given with the oxy-hydrogen light, but such slides often are utter failures with the tremendous power of the arc-light, which almost pulls a slide to pieces. It has a much whiter effect than the lime-light, so that, artistically, I do not like it as well. My slides are always tested by my own oxy-hydrogen light. There is some diversity of opinion as to varnishing slides ; it makes one more thing to be done, and the slide, once developed, the remaining work of matting and mounting is generally got through with as soon as possible. Personally I would deputize willingly all that part of the work, excepting the selection of a mat. The mats, however, should be chosen with reference to the subject of the picture, and, when it can be done, avoid the contrast of round corners in the picture and square in the mat, and *vice versa*. Do not leave an expanse of clear sky or an utterly meaningless foreground, a violent perspective, or make the view too large for the plate. I generally use a wide-angle Dallmeyer lens for slides, making mine entirely by reduction, but, being a great admirer of carbon work, I am sorely tempted to make some reduced negatives and obtain carbon slides ; they, of course, must be made by contact. My camera is placed on a permanent platform, elevated, as usual, at one end when desired, and faces a north window, with a removable ground-glass sash. One of the simplest and best pieces of apparatus I have ever seen is that used by Dr. Mitchell, of Philadelphia, and illustrated recently in one of our magazines. It is surprising sometimes with what simple materials one can do excellent work. We have heard lately from such a good authority as Prof. Laudy that wet-plate and dry-plate workers can safely compare results, and the same has been said in my hearing by such men as Dr. Mitchell and W. H. Walmsley, of Philadelphia. It is recommended by some eminent writers not to try portraits on the screen, but I believe that depends on the portrait. There is great scope for good taste in this particular, as in that of how far humor in slide-views should be allowed to go. It seems to me that the latter has very positive limits which should be carefully considered. There is one point I wish to bring out to-night, perhaps new to some, of considering how large a head or figure should be made from the negative, as the idea is worth having considerable thought spent on it. With some pictures it makes all the difference in the world whether the most striking feature shall be kept down in size so as to include the whole view, or some of the latter matted out, or whether the central figure, for instance, is made so large as to force part of the view off the plate. You will see what I mean by the two slides of the Burns statue at Albany, where, in one case, most of the landscape has been sacrificed with no loss to the picture. Slide-making has come to stay, and can be made a very useful andi mportant power if studied through all its moods and tenses. It seems possible that with the ever-increasing progress in photography still better methods will be devised to improve lantern-slides, and in our day one has to keep sharp watch or the tide will sweep past him. Our foreign competitors push us hard in this line of work, and I intend, while in England this Summer, to make an exhaustive study of the English methods, and it might be well for American workers to recall what Peter the Great, at the beginning of his reign, said of his able adversary, Charles XII.: "They may beat us now, but they will teach us to beat them." It will be interesting to note if, in future exhibitions, the knowledge which is being so widely disseminated among workers of different nations, through the medium of interchanging slides, will not bear fruit in continually raising the standard of average work. This can only be done by each and every one constituting in himself a committee of one to constantly elevate his own individual standard, putting into the work both energy and faithful, intelligent study, feeling the inspiration of Longfellow's expressive lines:

> "In the elder days of Art, builders wrought with greatest care
> Each minute and unseen part, for the gods see everywhere."

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The Hetherington Magazine Hand-Camera.

IN the Fall of 1889 we called attention to this new camera, which then had not been fully perfected. We take pleasure now in presenting our readers with a full description of the most approved instrument, taken, with the illustrations, from the *Scientific American*, to whom we are indebted for the use of the cuts.

Light, compact hand-cameras, capable of holding several plates or films for quick, easy working, are those now mostly preferred by photographers. Our illustrations show an instrument of this description, which contains many desirable advantages. It is the result of much study and invention by a practical amateur photographer, Mr. F. A. Hetherington, by profession a mechanical engineer, who, finding it so useful in his own work, induced others to join him to further its introduction to the photographic world.

In taking a picture with the camera only two movements are required: first, the releasing of the shutter; second, the rapid changing of the exposed plate. Fig. 1 is an exterior view. The box is neatly covered with black pebbled leather. On the front is seen the lens aperture, which, when not in use, is closed by a felt cap. All of the manipulations are performed by means of a key something like a clock key. One key aperture is on the side of the camera for operating the plates, while of the two on the front, one regulates the diaphragm plate and the other serves to turn the shutter for time exposures. Two finders are provided for taking the picture either way on the plate. On the side is the focusing dial and the smaller aperture near it for recording the number of exposures. There are no doors in the camera.

The top of the camera, having the handle attached, is constructed to slide out lengthwise, and ordinarily is locked in position by the upper finder, fitting into a recess cut on the under side of the cover. To obtain access to the interior for the purpose of inserting or removing plates, it is only necessary to depress the top finder with the thumb, and with the other hand slide out the cover. It will be observed that there are no projecting parts. A tripod screw plate is recessed in the bottom of the camera for holding on a tripod when time exposures are desired to be made.

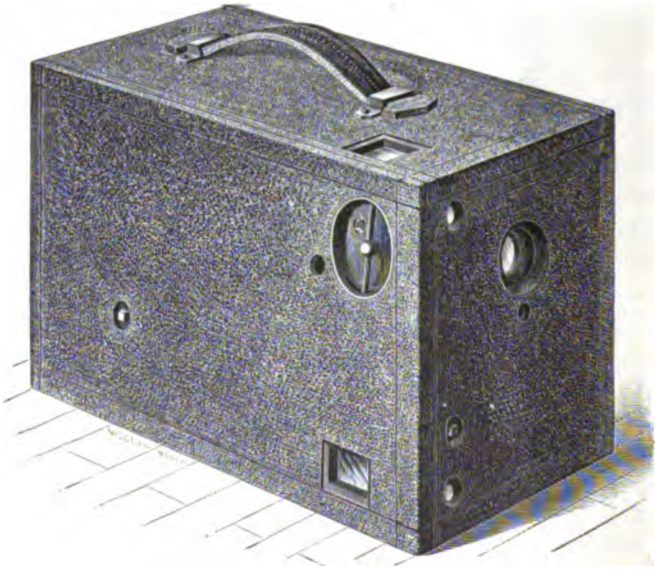

FIG. 1.—THE EXTERIOR.

The shutter and its propelling spring are secured to a vertical sliding lens-board, just inside of the front end of the camera, and can be easily removed for examination. The shutter is exceedingly simple, consisting, as shown in Fig. 2 (which is a front view), of a vulcanite disk having two apertures, rotated, as shown by the arrow, continually in one direction.

It is therefore always self-setting. Thus one of the additional manipulations (the setting of the shutter) usually found in hand-cameras is avoided. It is propelled by a clock spring and gear on the rear side of the shutter-board, as seen in Fig. 3.

The shutter release lever, shown on the right of Fig. 2, operates in a reverse way to those in general use; that is, by drawing the lever to the right the shutter is held until the lever, on release of the finger, is pushed back to its original position by the spring. This movement releases the small pin-stop on the face of the shutter and allows the latter to rotate one-half a revolution, until the next stop on the shutter strikes the release lever. A movement of this kind is desirable in preventing the sudden side motion sometimes given to a camera in releasing a shutter.

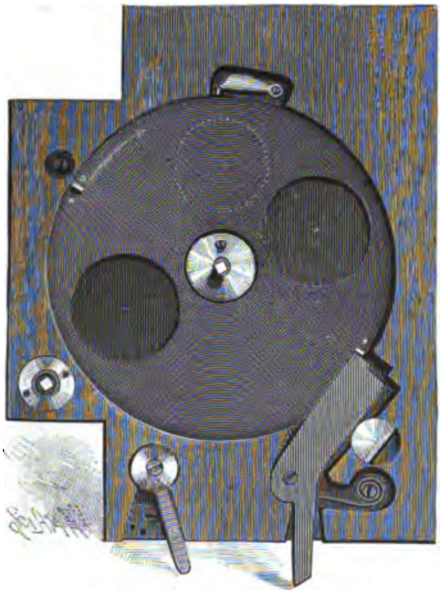

FIG. 2.—THE SHUTTER.

The pivoted hook shown in the recess in the top of the shutter-board drops into a notch on the periphery of the shutter, when the latter is turned slowly around by a key applied to the centre, and holds the shutter open for time exposures in the usual way. As the shutter moves in one direction, after several exposures the spring becomes weaker. To bring it back to its former tension, the half-circular cam against which the shutter release lever rests is rotated from the other side of the board until it permits the lever to fall back out of line with the stops on the shutter. Then the latter is rotated freely in the opposite direction by the fingers or by the key attached to the centre, which quickly winds up the spring. One winding will answer for thirty-six exposures before there will be any appreciable difference in the speed. The lever shown on the left is for regulating or retarding the speed of the shutter, its shaft passing through the shutter-board as shown at A, in Fig. 3, and, attached by a spring to a brake, bears against the periphery of the spring-propelled shutter-wheel. Moving the lever to the extreme left (Fig. 2) reduces the shutter to its slowest speed.

The key slot to the extreme left operates the diaphragm plate, seen on the other side more clearly in Fig. 3, by the bent wire spring arm, at right angles, passing through the lower end of the vertically sliding diaphragm plate. A guide, with slight notches in its edge, arranged on the outer face of the wheel-casing, enables the operator, when working the diaphragm key on the outside, to tell, by the friction of the arm while passing over the guide, when the apertures in the diaphragm coincide with the centre of the lens.

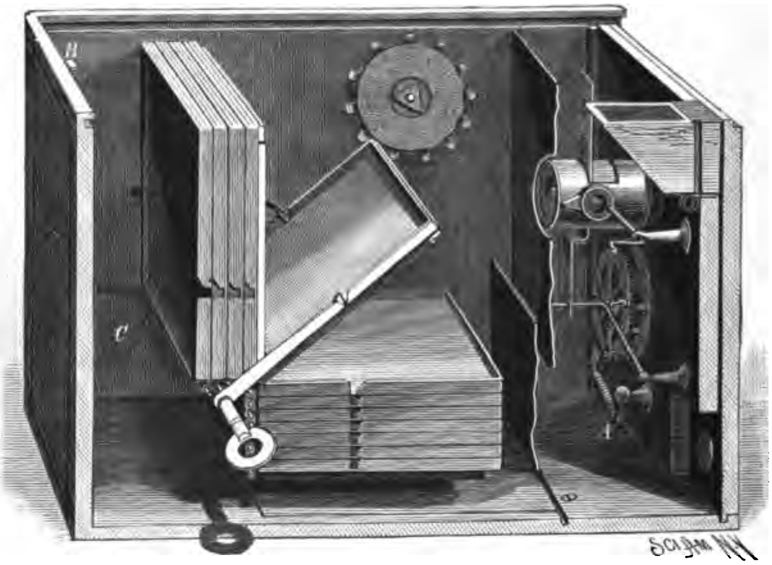

FIG. 3.—THE INTERIOR.

The lens is held by, and slides in or out, in a brass tube. It is moved for focusing by an eccentric strap attached to a shaft running to the side of the camera, its crank (shown just beneath the finder) engaging in a slot or guide on the inner face of the focusing disk. The location of this disk is seen in Fig. 1. The lens and shutter compartment is separated from the magazine by two sliding vulcanized rubber divisions, as shown.

The magazine consists of a series of metal plate holders or carriers hinged together at their base by links something like a chain, a rod running lengthwise under each carrier and the ends projecting beyond about an eighth of an inch, traveling in slots in metal plates as shown just above C in Fig. 3. The slots, at a certain distance from the rear, turn at right angles downward. The operation is similar to the old-fashioned revolving stereoscope. When a carrier is turned down, the others are advanced forward.

As shown, half of the plates have been exposed, and turned down. Each carrier has a notch in its edge, in which two arms, attached (one on each end) to an actuating key shaft, engage ; these arms are kept down upon the horizontally placed carriers by a spring, C, on the shaft. To change a carrier from a vertical to a horizontal position, the key is placed in the key slot and turned backward, which raises the two arms until they slide by and catch the back of the carrier. Then, by reversing the key, the carrier rotates downward. A special stop at the same time darts through an opening in the side of the camera, and holds the advanced carrier firmly in the focal plane. While a carrier is moving downward, its corner engages with a star indicator wheel having a friction-bearing plate at its centre and figures on one side, which are visible on the outside through an aperture in the case of the camera and show the successive number of plates exposed. Each metal holder is flanged back, so that it overlaps and protects the following plate from light.

To return the carriers from a horizontal to a vertical position, the key-actuating shaft is turned back as far as it will go, and a special catch, B, drawn upward. This locks the shaft and permits each carrier to be drawn back by the hands, and enables any particular plate to be selected for development. When the carriers are all thus drawn back, the catch, B, is pushed down, after which they can only be operated by the key. The actual operation of the camera is very simple and quick. It is made of the best material and workmanship ; is light, compact and certain in its working. We have used it with much success.

After one lot of plates have been exposed, it is a very simple matter in a closet or changing bag to remove them and insert fresh ones. The camera was awarded a medal at the New York Joint Exhibition of Photographs in 1891. It should be a most useful companion to any desiring to do good work with the least inconvenience. It is manufactured by Hetherington & Hibben, after Mr. Hetherington's patents, at Indianapolis, Indiana, the trade agent for New York being Mr. A. L. Simpson, 66 Broadway, New York.

The Amateur in Europe.

By JOHN FRETWELL.

I NEVER make a photograph if I can take it, and yet, in over-photographed Europe, I seldom leave my camera behind me without having occasion to regret it. So, on my last two journeys in Europe I twice lost most excellent opportunities. In the Autumn of 1890 I was exploring the Canadian Rockies, and met at Banff Hot Springs an English gentleman, who, like myself, possessed a camera, and, most unlike myself, was accompanied by an English servant who carried his photographic apparatus. To me, who had made many a solitary tour on the Pacific coast, carrying on my own back camera, provisions and surveying instruments, and making one piece of cloth serve at once as changing bag, focusing cloth, blanket at night and camera-cover while on the march, the possession of a servant was an object of envy. We spent some pleasant days together, and finally parted at Vancouver, with a promise on my part that if ever I visited Yorkshire I would call on him. With the modesty of a true gentleman, he simply indicated name and address, without saying anything of rank and position.

Five months later family affairs called me to my old Yorkshire home, and I wrote my traveling comrade that I could now visit him. A cordial invitation, dated from the Army and Navy Club in London, came by return of post.

On reaching the little station indicated in my host's letter, on a dull March afternoon I found a carriage with men in livery awaiting me. For two miles I was driven past the coal mines and lime quarries, whence my host derived his income, then into a beautiful park, in which I counted over a hundred head of deer—and finally, in one of those wooded hollows which the monks of old delighted to select for their abbeys and monasteries, and near the site of a battle-field once drenched with the blood of English soldiers in the Wars of the Roses, we stopped at the door of one of those

"Stately homes of England.
How beautiful they stand,
Amid their tall ancestral trees,
O'er all our pleasant land!"

which, difficult of access to those who are not "to the manor born," reveal to those who are once admitted within their charmed and charming precincts some of the most attractive features of English country life.

A new surprise awaited me. After lunching alone—for my host had not yet arrived from London and his wife was an invalid—I was informed by the valet that the latter would be glad to receive me. I found a lady apparently seventy years old in a boudoir which contained many kinds of photographic apparatus of the newest as of the earliest fashion, and near the boudoir was a little workshop. I soon learned that both the lady and her husband were passionate lovers not only of photography, but of amateur work generally. Advanced in years as this lady was (I have since been grieved by the news of her death), I was charmed by her vivid interest in all scientific and philanthrópic matters. Then followed a summons to the afternoon tea, which I also took alone, gathering, however, from the books and pictures around me that both my host and his son were military officers of high rank.

When I first saw my host, in the Rockies, no backwoodsman could be more roughly clad than I, in rattlesnake boots and corduroys—just fit for sleeping on the snow or for a tussle with a bear; although I must confess that when I first met the latter gentleman I was so anxious to save those corduroys — and something else — that I discovered — for the first time in my life — how quickly I could run. I was differently clad this time, for it is never safe to travel in Europe without a dress suit, and since we men are far more fortunate than women in the severe simplicity of black and white, such a suit is less cumbersome than a camera. Driving to church on the Sunday morning we passed under a noble arch on the highest ground in the park, on which, to my intense astonishment, I read the words "Liberty in North America Triumphant 1781." "How can you, a conservative Englishman, suffer a monument to your countrymen's defeat?" I asked. "My wife's grandfather," replied he, "was a red-hot Whig, and built that arch when he heard of the surrender of Cornwallis at Yorktown." How I would have liked to photograph that arch! And yet, even if I had been as rabid an Anti-Sabbatarian as the keeper of a Tammany Hall dive, good breeding would have prevented me from using the camera on the only day on which I had an opportunity of doing so.

On a former visit to England I was in a similar predicament. I had been lecturing at Rotherham on "Old England in America." Driving through the park with my host, I saw at its entrance an ale-house, called the Boston Castle, and inquired the origin of the name.

"In George III.'s time," I was told, "this park belonged to the lord of the manor, an ardent sympathizer with Franklin and Washington, and as soon as he heard that the Boston people had thrown the tea chests into the harbor, he called his hunting lodge the Boston Castle." Here again it was Sunday, and on Monday I was far away. And so in many English towns I have found records of the sympathy of the best class of English people with their countrymen who threw off the yoke of our German George, which must be of great interest to Americans.

At a later date an accident detained me an hour or two at Cleves, on the frontier of Holland and Germany. With this quaint old place is connected the story of Lohengrin and Elsa, and in its houses are fine specimens of Dutch artistic work of the seventeenth century; yet I could not buy a single good photograph of them, and as I had not expected to stop there, my camera was packed away in my heavy luggage.

One most interesting photograph I was, however, able to procure, that of my bill at the Hotel d'Hollande in Cologne, the most exorbitant bill I paid on my whole journey between San Francisco and Buda-Pesth. Near thirty years ago I spent a day there with wife and mother and sister, and having to appoint some central spot in Germany to meet my son and daughter, I thought of this place again. We three were the only guests in the hotel that Winter's night, and the bill was so large in proportion to services rendered that I have made a lantern-slide from it to illustrate my lectures. The most picturesque route to Europe is undoubtedly that *via* Montreal and Quebec, for though it is fully three days longer than from New York, the voyage down the St. Lawrence, the coasts of Newfoundland and Labrador, and the platoons of icebergs that are occasionally met with near the Straits of Belle Isle offer to the artist and the geologist scenes as interesting as any he will find in Europe. Another good route is by the steamers which, starting from Baltimore, touch at Newfoundland on the way to England. Another passing through the Straits of Gibraltar lands its passengers at Marseilles or some Italian port. Unfortunately for myself, since I took up the camera (only as the companion for days of illness) I have been obliged to select the quickest and least interesting routes, and I have never ceased to regret that I have not had time to revisit Transylvania, "the land beyond the forest," since the invention of the dry-plate made photography practicable for the tourist. There, within twenty hours' journey of Vienna, I have seen, almost still untouched by modern civilization, architectural and other records of the time when the crusaders passed through the Carpathians on their way to unholy battles about the Holy Sepulchre—and that most fascinating of the German myths of the Middle Ages, most inadequately done into English in Browning's "Pied Piper of Hamelin," and shamefully parodied on the New York stage in a play called "The Ratcatcher," finds its best illustrations in the modern life of Hungary. Does not Browning say

"That in Transylvania there's a tribe
Of alien people who ascribe
The outlandish ways and dress,
On which their neighbors lay such stress,
To their fathers and mothers having risen
Out of a subterranean prison,
Into which they were trepanned
Long time ago in a mighty band
Out of Hamelin town in Brunswick land," etc., etc.?

About Stereoscopic Views.

[Read before the Photographic Society of Kansas City, Mo.]

By S. W. Pearson.

I TOOK from my collection of several hundred stereoscopic views a handful at random, and picked out a few in which the distance between similar points, in the middle distance of the picture, was less than 2⅞ inches, and a few others in which similar points were over 3 inches apart, marking on each this distance in pencil as a convenience in observation. As you see, these cards are gathered from a variety of sources, all the way from Paris to the Rocky Mountains, and are all from regular makers, no amateur work being considered in this, as I wish to show what I think is responsible for the decadence in this branch of photography.

You will notice that some of these cards are less than 2½ inches between like visual points, and some are over 3¼ inches between like points, and I claim that the decadence in this work, which has been considerably spoken of lately, but not explained, is directly the fault of the very persons whose business has been lost or injured by it. They have ignored one of the simplest and most absolute principles of optics.

The pupils of the human eye, when looking at a distant object, are generally about 2⅝ inches apart. Nature provides for their approaching each other as for viewing near objects, naturally and unconsciously, but any divergence outside of parallelism is unnatural and painful, if not altogether impossible.

The photographer, aiming to give as large a picture as possible, has followed no fixed rule as to distance between similar points on his picture, as the picture shown illustrates. Finding it impracticable to see such pictures with ordinary lenses, the optician has come to his aid with prismatic lenses which certainly allow the eye to bring such pictures together; but whoever may explain it, or however it may be explained, the fact remains that to look at such pictures — that is, those which are too widely separate — soon tires the eyes, while with those which are 2¾ inches or less between like points, the eye assimilates them easily and without fatigue. Look at the first series, in which the pictures approximate this distance or less, and when you have looked them over, take up the next series, in which this distance is greater, and I think you will find, at least some of you, that when you are done with them your eyes will have the same feeling as if you had been laboriously endeavoring to make out some far-distant object.

It is not sufficient for the good of this class of work that some photographer shall make correct pictures and that some one optician shall make lenses fit to see them with; both pictures and lenses should be made to some well-studied and agreed standard. My idea is that similar points in middle distances should never be more than 2⅜ inches apart, and 2⅝ inches would be a standard not to be departed from more than ⅛ of an inch either way. I do not dispute the ability of opticians to make it possible to see pictures much further apart, but I claim that for the million who want many millions of these pictures a move in this direction, by adopting a standard of this kind and living up to it, would furnish the pictures they want, and the profession a new start in this line of work, to the advantage of maker and user alike.

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The Carbon Process.

[Abstract of an address by Dr. Leo Backeland before the Society of Amateur Photographers, April 5th, 1892.]

DR. BAEKELAND began his remarks by giving a brief history of the origin of the process. Among other things, he stated that the special action of the light on bichromate gelatine film was to make all parts upon which the light impinged insoluble to warm water. Mr. Swan had simplified the preparation of the tissue, and his process is now generally used. The carbon process is as simple as any other process, and allows quicker printing than ordinary silver paper; furthermore, it gives absolutely permanent prints. Carbon tissue is the base of the process, and is now manufactured regularly and comes in rolls. This carbon tissue is nothing else than paper coated with a mixture of gelatine and some pigment, as, for instance, lampblack. It is found advisable to keep tissue fairly dry, although if it is too dry it is liable to crack. The names of a number of manufacturers of the tissue of whom it could be obtained were given. Tissue is supplied in many different colors; ordinary lampblack is used to produce the black pictures, while many tissues are made containing blue, brown and red organic and mineral dyes. The carbon tissue is cut into sheets the right size and then sensitized. The mode of sensitizing the tissue is to soak it entirely in a bath of a three per cent. solution of bichromate of potash. The sensitizing bath must be cold and never higher than 60° F. or 70° F., otherwise the gelatine will dissolve out. Bichromate of potassium can be kept powdered, which allows one to make quickly a solution of this salt. Sensitizing can be done by daylight, but it is absolutely essential that the paper be dried in the dark, without heat, in a well-ventilated room. It generally takes about seven hours to dry carbon tissue, and when dried it should be kept in books or a press. Sensitized paper can be kept for several days in a dark room. The sensitizing bath can be used over again, but it is not advisable to keep it too long, especially if much paper has been sensitized. It is necessary after sensitizing to keep the bichromate of potash solution in the dark. Zinc or porcelain dishes are used for sensitizing. The sheet is laid film-side up in the bath, and in about three minutes the paper will become very flat and limp. After it has been floated on the bath and drawn off on a glass plate, the excess of bichromate of potash is squeegeed off, then the paper is hung up to dry.

It has been said that those who practice this process are liable to become poisoned by the bichromate solution, but he had practiced it largely, with many other amateurs, and did not find it as great a poison as some believed. He had never seen a case of bichromate poison. It was essential that the hands should be washed immediately after sensitizing, as the bichromate solution will penetrate into the skin and dye it yellow.

The only guide for ascertaining the proper exposure of the sensitive tissue behind a negative is to watch the instrument called a photometer, which has in it sensitized silver paper and which is exposed to light at the same time as the printing frame, and by comparing the darkening of the silver paper with a standard tint painted on the photometer, the action of light on the tissue can be controlled. It is necessary to paste strips of paper around the edges of the negative in order to make it opaque, so that there will be what is called a safe edge around the print, which will dissolve off during development. If you use a photometer it does not require much practice to tell when the printing is finished, after you have had one or two trials. Paper that has been sensitized for two or three days is more sensitive than that which has been freshly sensitized. When the paper is too old the whites will turn gray. After the print has been made it is dampened in water until it lies flat, and the excess of bichromate of potash is dissolved out. A specially prepared paper, called single-transfer paper, having the surface coated with gelatine made insoluble by alum, is dampened in a tray with cold water. The dampened carbon print is next squeegeed on the surface of the dampened single-transfer paper and is kept there squeegeed for a few minutes. It is then immersed in hot water 110° F. The substratum on the carbon tissue soon dissolves, and presently the paper support floats off, leaving the picture on the single-transfer paper. The development is continued until all of the carbon tissue not acted upon by light is dissolved out by the hot water. Instead of squeegeeing the print upon prepared single-transfer paper, Dr. Baekeland squeegeed it upon a porcelain plate and produced a very handsome protrait on porcelain. He said the single-transfer paper answered all the purposes for portrait work, but in order to have a picture like a landscape show non-reversed, it was necessary to use what is called the double-transfer process. To do this it was necessary to transfer the picture to glass that had been rubbed in previously with talc coated with collodion and then soaked in water. When this picture was dry special double-transfer paper was squeegeed on the glass plate. When dry, the collodion and paper with the picture would be stripped off from the glass and have a very high finish. Dr. Baekeland went through the operation of a double transfer, showing the method of coating the plate with collodion and squeegeeing the picture thereon.

His demonstration was quite successful and seemed to be simple enough so far as the ordinary single-transfer process was concerned, but where the double-transfer process was to be used the work necessary was greater than in the ordinary silver printing process. He stated that before he removed to this country he used the carbon process almost exclusively for making prints of his negatives, and that these prints are at this time just as nice as when they were freshly made.

After his demonstration he showed some nice samples of photography on porcelain plates. These plates were printed directly in sunlight under a negative in the same way as albumen paper, and toned afterwards. He procured the ready sensitized plates for this process from the Pyrophoto Co., in New York, which has recently put them on the market.

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Editorial Comment.

Our Illustration.—The title of this month's frontispiece aptly describes it. "Making Friends," one can easily see, would not be difficult where such perfect confidence evidently exists as in this case. The picture reminds us of Verbœckhoven's animal paintings, and plainly disproves the narrow and illiberal judgment which would deprive photography of her close relationship to painting and sculpture. Miss Mary E. Martin, from whose negative our reproduction was made, is a prominent member of the New York Camera Club, and the scene was in the picturesque region surrounding Cooperstown, N. Y. We feel sure our readers cannot fail to enjoy the pastoral beauty of this illustration and its artistic composition, to say nothing of its technical excellence.

An International Exhibition at Paris.—An international exhibition of photography, under the auspices of the syndicated corporation of manufacturers of and dealers in photographic specialties and cameras, will be held from April to September, 1892, in the World's Exhibition (1889) buildings, Champ de Mars, Paris. The exhibits will be divided into eight groups, as follows:

1. History of photography.
2. Scientific photography, astronomy, micrography, medical and legal photography.
3. Artistic photography for amateurs.
4. Professional art photography, negatives, portraits, landscapes, views, reproduction, etc.
5. Industrial photography, hollow and relief photography, photo-engraving, photocallography, photolithography, photoglypty, photochromy,

stereoscopy, photography on silk, glass, linen, enamel, china, ivory, wood, etc.

6. Chemical products and photographic specialties, collodion, films, plates, papers, acids, salts, gelatines, etc.

7. Photographic material, optic, mechanic, cabinet work, leather goods, paper, glass and studio requisites.

8. All trades connected with photography, printing, electricity, lighting, furniture, exploration.

It is intended that some account of this interesting and important exhibition be given in our pages, as Miss Barnes expects to visit Paris during her European trip this Summer. It would be well if America were to make a good showing there. We would vastly improve in our photographic work if we were more particular about noting the progress of others and not keep such close watch on our own.

An Active Camera Club.— Seldom has any club, organized specially to promote and encourage photography, displayed more rapid growth and activity than the California Camera Club, of San Francisco, Cal., now a little over two years old. It has been fortunate in securing men as leaders who are awake to the needs of the time, and who understand the necessity of providing practical amusement and instruction for the entire membership, at the same time so distributing the work among members that it shall be done to the best advantage of all. The ladies in the club take an active part and aid materially towards its social success. An excursion around San Francisco Bay was lately enjoyed through the generosity and kindness of a single lady member. The club has adopted the plan of giving first-class public illustrated lectures and concerts, which have become quite popular and largely increased its membership. Besides this, it has just inaugurated "Club Talks," to be held once a week, for the purpose of enabling the members to become better acquainted and to promote the discussion, informally, of ideas, suggestions and opinions on subjects appertaining to photography.

It is intended to begin these meetings by having read a carefully prepared paper on some subject relating to photography, then to institute a discussion on the merits of the matter treated upon. Photographic novelties and mechanical inventions will be shown and explained; new developers will be tried and merits or demerits shown; new printing processes will be investigated and the results made known at these meetings. Offsetting the photographic talks will be music and refreshments at the close of the evening, provided any talent is present. Some evenings are to be allotted to the testing of lantern-slides and demonstrations.

The club has a special "Field Committee," which arranges outings twice a month to promote outdoor photography, which, it is expected, will create new and fresh material for print and lantern exhibitions; and it is intended that each member participating shall contribute to the club two or three prints of views made on each trip, to form the nucleus of a historical and probably valuable collection.

Enough has been stated to show the possibilities of what an active club may do. We think to these things should be added an equipment of a complete library on photography and a museum for the exhibition of old and new apparatus, and examples of the different photographic processes. We commend the example of this club to several of our older organizations.

Seasonable Hints.—With the opening of the Spring and Summer the outdoor work of the amateur becomes most fascinating and interesting, for there are such a variety of things to photograph. Each has his own hobby: some delight in animal photography, others in botanic photography or marine photography, many in outdoor portrait and in group photography, and still others in pure landscape work. It is an excellent practice to photograph the byways and roads around one's home, taking each year one road at a time, or to picture the scenery of some river, creek or brook from its source to its confluence with other waters. When such work is begun one is surprised at the pretty pictures that are invariably presented, while a collection so obtained is always interesting for its historic and geographic qualities. Never trust a newly made camera, or, in fact, one that has been used for some time, when about to take an outing, without first carefully testing it for light-leaks, or for leaky shutters and leaky plate-holders. Plates are frequently blamed where the fault is really in the machine. To test a leaky plate-holder attach it to the rear of the camera, remove the lens-board, and with the focusing cloth over the head, look through the lens opening towards the rear of the camera. In this position the slide end of the plate-holder is put in a strong light and the slide pulled out. If the light-trap in the holder is defective, pencils of light will be seen to shoot in over the face of the holder, which, of course, would fog the plate. It is always advisable, in exposing a plate, to keep the focusing cloth over the bellows of the camera and the plate-holder. Sometimes screw-holes in the lens-board admit light, and, if small enough, will act like a pinhole and produce a secondary image on the plate. Also light will leak through the top of the rising front. To test the bellows and camera for light-leaks, remove the ground-glass, cap the lens, cover the back of the lens with a piece of black paper, then with the focusing cloth over the head and the camera in strong sunlight, look into the camera towards the lens. By moving the camera slightly, or tilting it at different angles, light-leaks are easily seen by the eye. Frequently the rubber-cloth bellows becomes leaky, like a sieve, after some usage, hence it is necessary to make examinations often. They may be made light-tight by the application of a solution of shellac dissolved in alcohol, having mixed with it lampblack.

Light reflected from bright spots on the interior of lenses also produces foggy negatives. All interior metal work of lens-tubes should be carefully blackened.

To test a hand-camera for leaks, leave it in the sunlight for ten minutes with the slide of the loaded plate-holder drawn. Over the surface of the plate is put a small piece of black paper. Then the slide is replaced and the plate immersed in an eikonogen and potash developer for fifteen minutes. If no perceptible darkening of the film occurs, then the camera is light-tight.

If shutters are attached to the outside of the lens, the interior of the camera should be inspected, when the shutter is closed, to see that it does not leak light. Light-tight cameras are the first requisite for good work; it is through slight defects of this kind that much work is oftentimes ruined. We would therefore caution all to examine their cameras before making a trip.

An Improved Para-amidophenol Developer.—It has been found of the greatest importance, in preparing this developer, to use very pure sulphite of soda; the brand recommended is made by Merck, a German chemist, and to be had from Eimer & Amend, Third avenue and Eighteenth street, New York. The crystals have a bluish cast, different from the ordinary commercial sulphite, which generally has a yellowish-white color. A formula that is now recommended is prepared as follows:

Distilled water, - - - - - -	32 ounces.
Merck's sodium sulphite (480 grains to the ounce),	1¼ ounces.
Carbonate of potash (480 grains to the ounce),	1¼ ounces.
Para-amidophenol, - - - - - -	155 grains.

The above is equal to about 5 grains of para to the ounce. If ordinary water is used, a deposit may occur in the bottom of the bottle, but with distilled water there should be none. In cold weather there is a tendency for the salt to crystallize out a little. The above solution, for use, may be diluted from one to five times, according to the plate and subject to be developed. When diluted five times in volume, it makes an excellent developer for slides. One dram added to 1½ ounces of water will develop six slides in succession perfectly.

A Combined Hydroquinone and Para Developer.—Shortly after discovering the advantage of mixing the para salt with eikonogen, we noticed in the *Photographic News* an account of a similar combination with hydroquinone, which is said to give excellent negatives:

Water, - - - - - - - -	1,200 centimetres.
Sodium sulphite (c. p.), - - -	80 grams.
Carbonate of soda (crystals), - -	60 grams.
Para-amidophenol, H CL, - -	4 grams.
Hydroquinone, - - - - -	3 grams.

Carbonate of potash may be substituted for soda when desired. With the developer, six or seven plates may be developed in succession without any appreciable loss of power. After repeated use the developer assumes a pale yellow color and is somewhat turbid, but the next day, after filtering, it becomes clear again and can be used over again as a developer.

The Maddox Fund.—From our English contemporaries we learn that the fund for Dr. Maddox's benefit has been closed. The total subscriptions reached £400, 14s., 3d., or approximately $2,000. We are very glad that our subscribers helped this fund, and are assured that it will do the good it was originally intended to do.

Some Interesting Facts.—We desire to call attention to page 226 of the *Photographic Times*, April 29th, and suggest that the table given there of the "Reactions of Various Developers" be carefully noted by all camerists who are interested in the chemistry of photography. It is worth cutting out and pasting up in one's dark-room for daily consultation.

Time Attachment for Cameras.—Mr. F. G. Lenz, who recently started around the world on bicycle for *Outing*, showed us his ingenious attachment to his 4¼ x 6½ camera, which he made himself, for regulating the time of exposure and also for regulating the time when the shutter shall operate. Near the finder, attached to one side of the front of the camera, he has a miniature music-box mechanism so geared that in fifteen seconds from the time it is started it will throw the release lever of the shutter and allow the latter to be operated. This is to give him time to walk off from the camera after the mechanism has started, that he may appear himself in the picture. He has an Asbury Barker time-shutter mechanism for regulating the speed of the shutter, and carries, to support his camera, a novel compact aluminium telescopic tripod, which can be quickly extended for use.

Persecution of Amateurs at the World's Fair.—The hundreds of thousands of amateur photographers who will undertake to practice their art at he World's Fair for their own pleasure and amusement, are to be treated as spies, arrested, fined, and instruments confiscated, we presume, because of the decision of the authorities that the right to photograph implies the right to sell. We are sorry broader views cannot prevail, but are in hopes the position now taken may be modified by the united efforts of the clubs throughout the country in petitioning the authorities against the proposed restrictions. Our Mr. Beach addressed a letter to the Board of Directors of the Exposition, setting forth the injustice that would be done to the thousands of amateurs if they were kept out altogether as proposed, and suggested that special permits be granted, such as is customary in several cities, but to contain a provision prohibiting the sale of work on the grounds.

The following interesting reply was received:

WORLD'S COLUMBIAN EXPOSITION.
EXECUTIVE DEPARTMENT.

Wm. T. Baker, *President.*
Thos. B. Bryan, *Vice-President.*
Potter Palmer, *2d Vice-President.*
Benj. Butterworth, *Solicitor-General and Secretary.*

CHICAGO, March 31, 1892.

F. C. BEACH, ESQ.,
Cor. Sec'y Society of Amateur Photographers,
New York, N. Y.

DEAR SIR: Your favor of the 24th inst., relative to the right to photograph objects of interest at the Exposition, was duly received and was presented to the Executive Committee of the World's Columbian Exposition at its meeting yesterday, and the matter therein contained was discussed at length.

The photographic privilege at the Exposition is regarded as very valuable, and is one of the sources to which the Exposition must look for the reimbursement of the heavy expenses entailed upon it. While it was the desire of the Committee to meet the wishes of the very large and influential body of amateur photographers of this country in the matter referred to, the very fact that this class is so numerous was deemed a serious objection to granting the permits you desire, as, by so doing, the value of any photographic privileges that might be granted would be seriously impaired, if not wholly destroyed. Neither was it deemed possible by the Committee for the Exposition to discriminate between those who were and those who were not amateurs in this art.

In view of these facts, the Executive Committee re-affirms the action of the Committee on Ways and Means, and directs me to express its regret at the inability to comply with the wishes of your society. Very respectfully,

BENJ. BUTTERWORTH, *Secretary.*

The Board fails to understand that more money would be made by granting permits to all responsible applicants, on the payment of a small sum, say four or five dollars, than to confine the privilege to four or five different parties paying fixed sums, as is now intended.

We think it is time for the clubs to begin a concerted movement for the benefit of their members, and are in hopes of seeing some of the leading clubs take the initiative. The World's Fair Commissioners from each State should be thoroughly advised on the subject, and secure some concessions, at least, for amateurs in the respective State exhibits. We give, further, extracts from the press, which indicate the popular feeling in the matter:

Amateur photographers going to the World's Fair had better leave their cameras at home if they want to keep out of trouble. It is announced that snap-shooting will not be allowed. The right to make and sell photographs of buildings, exhibits, grounds, etc., is to be leased to a limited number of responsible parties, and they are to have a rigid monopoly, for which they are expected to pay a handsome price. This is the invariable rule at such expositions, the revenue from the sale of right to photographers being an important part of the income.—*The Press, Portland, Me.*

A SILLY PROHIBITION.—The Chicago World's Fair Commissioners are credited with an intention to forbid "snap-shots" at the big fair. This is not done in the interests of the exhibitors or the public generally, or anybody else, except a monopoly, which is to be given the sole right to take and sell photographs.

In these days, when "kodaks" and "detectives" are in the hands of hundreds of travelers, when they are constantly used to preserve for their owners' reminiscences of scenes visited, when they have come to be regarded as common affairs, productive of much pleasure to their owners and very little inconvenience or annoyance to others, the attempt to forbid their use at a scene which every visiting amateur will wish to have numerous "snaps" at, is perilously near the edge of an invasion of individual rights.

If the Chicago show is to be simply a private affair, then its owners doubtless have the right to hedge about their property with restrictions of this sort. But if it is to be a public affair, then the rights and interests of the public are paramount, and we should advise the managers to invite the favor of as many classes as possible, rather than erect needless prohibitions, sure to anger and annoy hundreds of thousands of intending visitors.—*Morning Bulletin, Norwich, Conn.*

From the latest information obtainable on the subject, it looks as if all photographers would be debarred from making exposures at the World's Fair, except the chosen few who are licensed by the Committee on Ways and Means; and unless the amateurs can put the matter in such a light as to show the Committee the injustice that must result from such a policy of exclusion, they will be unable to record much of interest to themselves and the world, which will also not be recorded by those having the permission.—*Anthony's Bulletin.*

Photographers or Camerists?—We call attention on another page to Dr. Geo. E. Blackham's letter on the subject of camerists. It is interesting to note his definition of what a camerist is. We think he is misled in narrowing the definition to so small a scope—to one who merely presses the button. Camera clubs have become so numerous that the word "camera" has come to be understood to stand for photography, hence it would be quite proper to call any person who carries or uses a camera for photographic purposes, a "camerist." As to its meaning the degree of skill he may possess, we are sure Dr. Blackham is mistaken. A "camerist" may have little or much knowledge of photography, according to his experience, hence it is unfair to restrict as suggested. We have heard of the word "camerad" being used as a title for a club. To be more specific, the press-the-button photographers could be called "snap-shooters," or "hand-camerists;" but, we think, in general the word "camerist" is an improvement over the long word, "photographer," or "amateur photographer," and means nearly as much. The amateur photographer should, as Dr. Blackham indirectly states, learn to do one thing at a time, as well as possible, before starting out in other branches.

It is essential to master the first principles of the art, then genuine, systematic, reliable, educating experiments may be made with the certainty of doing some good.

It was through patient research and experiment that the many improvements we have to-day were discovered, and we would be the last to discourage such work by the camerist, amateur, or photographer.

Each mite of experience and experiment has a value, and should not be kept out of sight.

Correspondence.

A CAMERA TRIP ACROSS THE HERRING POND.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER :

The time of year now coming on for tourists to visit this country, I will try and give a few hints to photographers especially.

No doubt there are many fine spots in this country for view-taking, but being better acquainted with the southern part, and the county of Hampshire especially, I shall devote my article to this district.

Arriving at the port of Southampton, an arrival will find plenty of good hotels and lodging houses, and very cheap. Fowler's Temperance Hotel, near the docks; Radley's, opposite the dock and railroad station ; Dolphin, in the High street; Royal, in the High street—these are all very good ; but the first and second are, I think, the best, but have never tried either. We have a good dealer in photo material— W. Martin, High street.

In and around the town are many old Norman bits; old town walls; gateways; remains of castles, now used as cattle-sheds; quaint streets, some four feet wide, with houses overhanging them, and about one and a half miles from the docks one gets to a lovely avenue over four miles long ; also the common of 375 acres, and the cemetery of 27 acres, in which will be found many fine pieces of sculpture. On the common will be found four lakes, which, with the surroundings, all make lovely views.

I will now mention some of the outings one may take at a small expense.

Taking a train to Netley (fare 18 cents — return), and either a walk or drive of a mile from the station, he will come to one of the prettiest old ruins of an abbey—permission to be applied for and readily granted by Tankerville Chamberlyn, Cranbury Park, near Bishopstoke. Morning is the best time to visit the abbey — about 10 o'clock. After taking all the views in the abbey, he can walk one mile and reach the hospital, which is a quarter of a mile long, and contains a fine museum. From the pier a fine view of the water can be taken.

To visit the New Forest he should prepare to spend a week at least. Taking the train for Lyndhurst (fare 27 cents — return), he will find a 'bus to take him to a good hotel, or he can wend his way on foot for two miles. I should, however, recommend him to obtain lodgings, of which there are several to be had. The church exterior and interior is well worth taking. The altar screen is considered a great painting—subject: "The Foolish Virgins." The painter is Sir Frederick Leighton, R. A. One of the best drivers for description, yarns and pretty drives is Pink.

The ancient city of Winchester is almost worth two trips to do it well. It has a fine cathedral, gateways, town cross, and along the river, about a mile, is the little village of St. Cross, where there is a fine old Norman church. Fare to Winchester is 35 cents—return. Salisbury also has a fine cathedral — entirely different style — and in the town may be found plenty of subjects. The fare is $1.20 — return. On the way to Salisbury he will pass the small country station of Romsey. This is a quaint old market town, and has an abbey still used for worship. A whole day can well be spent in taking views of the abbey, town and along the river. The fare is 31 cents — return.

Several boats leave Southampton during the day for the Isle of Wight, where a most enjoyable holiday can be spent. Cowes is the place to make a start from. During the regatta week the bay is full of yachts and men-of-war. Carisbrooke Castle, the place where Charles the First was imprisoned for a short time, has many choice bits Bournemouth, Chirstchurch, Portsmouth and many other places are easily reached, and all have views which charm a photographer.

London is reached in an hour and a half, but I think a photographer will not regret having stopped in the neighborhood I have specially written about. I have already taken up enough valuable space; but my excuse is that I hope some reader on the lookout where to spend a holiday, on visiting this country, will derive a few hints from this; and, if he likes to write to me, I will give him more particulars as to hotel prices and other information he may require.

March, 1892. THOMAS MANSELL.

Avondale, Westwood Park, Southampton, England.

CONCERNING CAMERISTS, SCARABEES AND SUCH.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

In reading much of the advice to amateur photographers published in the various magazines, annuals, etc., I am often reminded of "the Scarabee," that queer old chap in the "Poet at the Breakfast Table" who would not admit that he was an entomologist, nor even that he was a coleopterist, but gloried in the fact that he confined his studies to a single genus, the genus Scarabæus, and had no time to waste from this important pursuit to look at the stars through a great telescope.

"Choose one brand of plate and one developer and stick to them," says one authority. "Confine yourself to one class of subjects," quoth another. Another calls us "camerists." And the merchant says "Press the button and we'll do the rest."

Surely the press-the-button brigade are the ideal amateurs, according to the authorities above quoted. They do not waste time or energy experimenting with various brands of plates; they take the unseen roll of film without thought or question as to whether the emulsion is fast or slow, ortho- or isochromatic; they do not fret about the relative merits of pyro, eiko or hydro, nor are they worried over the chemical complexities and orthographic monstrosities of the latest additions to the list of "amidophenols." They are "camerists" pure and simple. They toil not, neither do they spin, except to carry their cameras and press the buttons, and some one else does the rest; and so they are camerists but not photographers, amateur or otherwise.

But who wants to be a "camerist"—a "Scarabee?" Not I. Why should I stick to one brand of plate, or one formula of developer? Why should I not take a picture of a yacht-race to-day and of a horse-race to-morrow, and next day ride out to the farm and take grandma feeding her chickens and grandpa making hay? I can understand that, if a man is making his living by photography and has found that a certain brand of plate and a certain formula of developer will give him certain results every time, it is wise for *him* to stick to them. He cannot afford to waste his time or risk his reputation by making changes. The amateur photographer is, fortunately, not so fettered; he is free to please himself. Of course, if he is by nature a Scarabee—one who feels that entomology is too wide a field for the human intellect to grasp—and that even the family of the coleoptera is too much for *him* to grasp, and that the genus Scarabæus is about his size, he can stick to one brand of plate, one formula of developer, and take pictures of one kind only, or if he is of still smaller pattern, he can press the button and let somebody else do the rest, and, possibly, enjoy it. But I think the all-round amateur photographer, who "takes" everything he comes across, who tries this brand of plates and that, who has tried enough developers to know that no one formula is best for all kinds of subjects and all lengths of exposure, and who is not seriously dismayed if he should not get just the right number of milligrams of each, and every ingredient as printed in Professor Fabrikfahren's latest formula, gets the most out of photography, and is most likely to contribute to its progress. If a beginner in photography were to

ask my advice, I would say to him: "Please yourself. Don't fear to try anything and everything. Don't be afraid of a few failures; they may be the gateways of new discoveries. If some old chap says a thing cannot be done, *try it.* If you fail it is no more than is expected; but if you succeed! Then what? Well! There is a good deal of satisfaction in it and you have probably learned something. Try various lenses and study optics to find out why one is better than another; try various makes of plate, and various kinds of developer, and various sorts of paper, and look up your chemistry to learn the why of their different qualities and adaptation to different kinds of pictures. Take hand-camera snaps, and let no one persuade you that you cannot take just as good pictures this way as any other. Not the same, to be sure, but just as good in their own way. Take time exposures, too, and flash-light pictures, and landscapes, and marines. Do not shut the eye of your camera on anything of interest or beauty—any more than you would shut your own eyes on it. Remember you are not bound to succeed every time. Do not let your camera be your master; make it your slave, like Aladdin's genii. You can, if you will, make it open for you the treasure-houses of optics and chemistry, of art and science, of weather wisdom and of woodcraft, or you may, if you choose, stick to one line, and in the latter case you may get a good deal nearer absolute perfection, in your chosen line, than any amateur photographer may ever hope to win; but you will be only a 'camerist' after all."

Yours fraternally,

Dunkirk, N. Y. GEO. E. BLACKHAM.

RECENT EXHIBITIONS.

THIRD ANNUAL EXHIBITION OF THE MYSTIC CAMERA CLUB.

The exhibition held at Town Hall, Medford, Mass., April 7th to 9th, was a marked success, the exhibits being large, and throughout showing an advance over last year's exhibit. The pictures were attractively arranged around the walls of the hall.

E. A Balcom showed twelve prints, of which the "Stone Bridge" was the best. W. E. Bentley showed twenty-seven well-composed pictures, displaying good judgment in arrangement, and the "Willows by the Brook," "Winter in the Woods," "Jack," "Field and Woods," "The Old Stone Bridge," "Birches," "Elm St.," "Cascade," were all good pictures. "The Farm House" could have shown to better advantage had it been lighter printed.

Miss M. J. Bishop contributed a well-chosen set of Bermuda views of interest, tastefully mounted.

B. D. B. Bourne gave an excellent illustration of what a negative will produce in different styles of printing. Bromide, with and without uranium tone, plain salted prints, Japanese paper, albumen and aristo papers — these prints were all artistically arranged and mounted, the cascades in Middlesex Fells and Winter Hill Station showing well-defined and careful work throughout. The yacht pictures were rather too dark to show off to advantage.

Mr. George E. Davenport, one of the most ardent workers of the club, exhibited a few pictures only, of which the experiments with ortho dry plates were very interesting; but his greatest work was in the evening's illustrated lecture on "Middlesex Fells," where his views and well-written lecture showed the large amount of extra labor this most worthy member had in store for his friends.

Mr. W. C. Eddy had one of the finest collections of 6½x8½ prints in the entire exhibit, the "Breakers at Nahant" being a fine specimen of instantaneous photography; the "Tuft's College Buildings" and the "Chestnut Hill Reservoir" were well defined, sharp and clear. The "Back Bay Fens" views, "Distant Church Spire," and the four snap-shots of the "Snow Scenes" were all good examples of careful work. The panoramic views lacked clearness in the distance.

Mr. Fuller's collection was very interesting, in which was an excellent view of "Tuft's Chapel," with fine cloud effects. All were charmingly taken.

Gilbert Hodges showed a fine lot of pictures, all showing careful work, the Nahant views being some of the best shore views exhibited. The "Van Horn Glen" (Springfield. Mass.) views also giving charming effects, and with his snow scenes and instantaneous view of a hen-yard, showed no common skill in that kind of work.

C. Edw. Hooper sent five sheets of views of Connecticut River Valley and Castine, Me. All were well taken, but greatly reduced in attraction by being poorly mounted.

Messrs Huff & Son both showed a large and interesting set of pictures uniformly presented, and giving the spectators the impression that these gentlemen were great lovers of the art by showing so liberal a collection. The "Billerica Dam," "The Cool Retreat" and "Wood Scene" were well taken. The "Old Powder-House" was well taken by Mr. Huff, Jr. The "Marblehead Kid" and "Yacht" were among the best pictures shown by this gentleman.

The exhibition from the Portland Club was large and very interesting, all showing ability and earnest pursuit of the art.

Mr. E. L. Jenkins sent very interesting pictures from his recent trip to Brazil. The native hut — a sepia-tone salted print — was a marvel of reflective effect and throughout a most excellent production.

Mr. Winslow Joyce contributed a large number of views from Bermuda, full of well-

Loaned by the Mystic Camera Club.

OLD TOLL HOUSE, MEDFORD TURNPIKE.

chosen points, but his exhibit would have been the better for the printing being a little lighter. "The Mystic Lake" view was a fine picture with a pretty and peaceful effect.

The snap-shots by S. T. Kirk were all good, the "Old Mill" and "Winter in the Fells" having the best effect. F. A. Newcomb, Jr., gave a very neat and pretty exhibit, "The Turn in the Road," "Granite Quarries," "The Beach" and "Grist Mill" all showing careful work. "The Wellfleet Tavern" was very well lighted. "In the Country" was a very effective gem.

Mr. H. A. Norton had a frame of neatly arranged pictures, and showed the only specimen printed on silk.

Mr. Pitts had a large lot of views, all of interest. The panorama and "Powder House" of Marblehead, with an "Idler and Driveway" and "Spot Pond" view, were beautifully composed. The large "Gun on the Kearsarge" was also finely taken.

The "Spring Clearing," by Miss L. P. Robinson, was a gem, and her other pictures were neatly arranged.

Mr. Robinson showed some very handsome scenes in the woods, being finely exposed and well composed. His collection was large and attractive, all his Castine views being superb, the "Rope Walk" being among the best.

Mr. Stone's views were handsomely mounted and arranged, the "Revere House," "Marblehead Street," were finely lighted and full of atmospheric effect. "The Bend by the Willows," and the three pictures in France, were very handsomely gotten up. But we think lighter printing would have improved their effect greatly.

Mr. Sweeney sent a frame of work showing exquisite taste and judgment in every way. All his pictures were well taken, and indicated painstaking and faithful work.

The snap-shots by P. J. Teel were very fine, all showing good judgment in developing and mounting.

Mr. Thaxter had on exhibition a frame of porcelain photographs, but we do not think these pictures desirable for but few purposes; some of his pictures could be shown better on some other material.

Mr. Thode had a number of fine bromide enlargements and a superb collection of studio work, "The Little Plumber" being the best, and one portrait shown in the exhibit, taken instantaneously, was full of life and true to nature.

Mr. Tucker had some pretty views from Medford and vicinity, and the "Falls" and "Mystic Lake" very well composed; "The Old Timer" was a very pretty bit. Mr. J. F. Wade showed his great interest in home portraiture by exhibiting a fine lot of such work, equal to the best of its kind ever shown. His finely printed bromide also showed his ability in outdoor work. The "Beach" and mountain scenes were all excellently taken, and the tasteful and the fitting manner in which they were mounted added much to their appearance.

Mr. Joseph Wheeler's frame was full of pretty work, and the tasteful arranging was very effective. "The Old Mill" and "Deserted Farmhouse" were among the best. The fine printing gave a correct value to all his pictures. The out-of-town exhibits were, no doubt, the finest work ever shown, and reflected great credit upon such gentlemen as Mr. Benjamin, of Hartford; Messrs. Berry, Goodwin and Nason, all showing the best plain and platinum prints in the entire exhibit. The bromides by Mrs. Bacheller, of Lynn, were not quite crisp enough, and were, no doubt, produced with any other developer but the iron oxalate. Mr. R. C. Fuller, of Providence, R. I., had a very pretty collection of photographs, and, with Messrs. Gladdings, Howe and Hudson, contributed to add interest to the exhibit. Mr. Hinsdale Smith, Jr., of Springfield C. C., sent the best lot of plain prints ever shown in the rooms. His atmospheric effects were charmingly caught, and the arrangement of his work added much to the very interesting collection.

Mr. Leshure, from the same club, had also a very fine lot of pictures there. "Cleft

Rock," by Mr. Adams, and "Pigs in Clover," by M. D. Fletcher, were also very catchy. The catalogue was the work of Will C. Eddy, of the club, and was a remarkably neat specimen of the printer's art, containing half-tone reproductions of the Executive Board of the club, and historic "Fountain Tavern," "Royal House," "Old Toll House," and "Craddock House."

MYSTIC.

THE BOSTON FIFTH ANNUAL JOINT EXHIBITION.

PRELIMINARY NOTICE.

The exhibition opened on Monday morning, May 2d, at the Art Club, on Dartmouth street. There were 127 exhibitors and nearly seven hundred frames. It was by far the best art exhibit on photography that has ever been held in Boston. The duration of the exhibition had to be shortened at the last moment from May 12th to May 7th. We take from the *Boston Transcript* of April 26th an advance account of the character and scope of the exhibition :

"The Camera Club's annual exhibition of the leading American amateur photographic societies, to be held next week at the Art Club galleries, promises to be the largest and finest collection of artistic photographic work ever shown. There are more than a hundred exhibitors, with approximately six hundred frames, and the catalogue will contain the names of all the most prominent artists in photography, not only in America, but in the whole world. The English photographers' collection will be a notable one, as they have long held the palm in 'picture-making.' But it is thought that some of the home exhibitors will push them hard for honors this year. The very fine and complete collections of portrait work will be a revelation to those who have not kept in touch with the rapid advances made in artistic photography during the last two or three years, and specimens equaling in lighting and modeling the best efforts of the skilled brush and pallet are not infrequent. The committee having the exhibition in charge have made a radical departure in endeavoring to place the exhibition on an 'art basis,' and, in selecting their Board of Judges, have chosen such artists as Messrs. J. Foxcroft Cole, I. M. Gaugengigl and F. P. Vinton to make the decisions and awards. The medals are from a design by Ipsen (who also designed the cover for the catalogue), and the diploma is the result of a competition among the amateur photographic societies, and is said to be very beautiful and most effective. The catalogue is the result of great effort and labor, very chaste and original in design, and properly of a memorial character. It is to be copiously illustrated with pictures made by some of the best representative members of the club."

As we go to press we receive the following report of awards at the exhibition :

BOSTON CAMERA CLUB, 50 BROMFIELD STREET, BOSTON, MAY 2, 1892.—The committee having the conduct of the Fifth Annual Joint Exhibition in charge have the honor to report that the Board of Judges, consisting of Messrs. I. M. Gaugengigl, F. P. Vinton and C. Howard Walker, have announced their awards as follows, each award being given for the entire exhibit of the exhibitor :

The judges award medals to Mr. Francis Blake, of Auburndale, Mass. ; Mr. William Sumner Briggs, of Boston, Mass. ; Mr. Arthur R. Dresser, of Springfield, England ; Mr. Hamilton Emmons, of London, England ; Mr. Benjamin Kimball, of Boston, Mass.; Mr. J. Prince Loud, of Boston, Mass.; Mr. George M. Morgan, of Boston, Mass.; Mr. Charles R. Pancoast, of Philadelphia, Pa.; Mr. Lyddell Sawyer, of Newcastle, England ; Mr. Alfred Stieglitz, of New York, N. Y.; Mr. F. Dundas Todd, of Edinburgh, Scotland ; Mr. Clement Williams, of Halifax, England.

The judges award diplomas to Mr. John W. Alexander, of Yonkers, N. Y.; Mr. Henry W. Belknap, of Boston, Mass.; Mr. Charles I. Berg, of New York, N. Y.;

Mr. James L. Breese, of New York, N. Y.; Mr. John G. Bullock, of Philadelphia, Pa.; Miss Emilie V. Clarkson, of New York, N. Y.; Mr. W. S. Clow, of Philadelphia, Pa.; Miss Emma L. Coleman, of Boston, Mass.; Mr. C. Court Cole, of Oxford, England ; Mr. Charles H. Currier, of Boston, Mass.; Mr. William H. Dodge, of Lowell, Mass.; Mr. John E Dumont, of Rochester, N. Y.; Mr. O. A. Eames, of Boston, Mass.; Mr. George H. Eaton, of Boston, Mass.; Miss Sarah J. Eddy, of Providence, R. I.; Mrs. James Osborne Wright, of New York, N. Y.; Mr. I. W. Evans, of Wolverhampton, England ; Mr. William A. Fraser, of New York, N. Y.; Mr. Wilfred A. French, of Boston, Mass.; Mr. H. M. Grisdale, of New York, N. Y.; Mr. Martin J. Harding, of Shrewsbury, England ; Mr. H. A. Latimer, of Boston, Mass.; Mr. John C. Lee, of Boston, Mass.; Mr. J. S. Mason, of Boston, Mass.; Mr. Clarence B. Moore, of Philadelphia, Pa.; Mr. George A. Nelson, of Lowell, Mass.; Mr. Robert S. Redfield, of Philadelphia, Pa.; Mr. Edward T. Sherman, of Yonkers, N. Y.; Miss Elizabeth Almy Slade, of New York, N. Y.; Mr. John L. Stettinius, of Cincinnati, Ohio; Mr. W. O. Witherell, of Boston, Mass. Respectfully submitted,

GEORGE M. MORGAN, *Chairman.*

It will be seen from the above that twelve medals and thirty-one diplomas were awarded.

THE PHOTO. EXHIBITION—THE RULES WHICH GOVERN THE COMPETITION FOR PRIZES.

The Boston Journal of May 3d thus describes the opening of the exhibition : "The fifth annual joint exhibition of the Photographic Society of Philadelphia, the Society of Amateur Photographers of New York and the Boston Camera Club opened yesterday morning at 10 o'clock, at the galleries of the Boston Art Club. The exhibition will continue from 10 A. M. to 10 P. M., until Saturday, May 7, when the doors will be closed at 6 P. M.

"It was the original intention of the committee in charge that last evening should have been devoted to a 'private view,' and that the exhibition should have been continued for two weeks. It was found necessary to modify the intention, and all holders of entrance tickets were welcomed last evening. In spite of the unfavorable weather, many availed themselves of the rare opportunity to see the advance made lately in the photographic art.

"For while the exhibition as a mere display of beautiful views is in the highest degree interesting, it has likewise value as showing the possibilities of modern photography. What these possibilities are remain so much a secret to the great majority that an exhibition like that at the Art Club is a revelation. It will, for instance, be apt to convert those who still refuse to admit that the photographer may display to a high degree the genuine artistic faculty.

"The exhibition displays, of course, variety in the subjects treated; that is a feature, and a refreshing one, of all large photographers' exhibitions. Still the highways and byways have not this time been ransacked for odd and unusual subjects. There are not many views which depend for success on startling effect rather than on excellence of workmanship, and it is possible that the managers of the exhibition have been a little hostile to what may be called the sensational school of photography.

"To speak in detail of the many triumphs of photographic art would be a pleasing task. It is, however, only possible to mention briefly the most striking. The wood interiors by Mr. W. S. Briggs, of the Boston Camera Club, are worthy of careful attention, as are the portraits by Mr. G. M. Morgan of the same club. Mr. Clement Williams, of Halifax, England, exhibits four marvelous marines with cloud effects. Three of them are from direct negatives, and are not enlargements. The negatives were taken with a pale smoked-glass screen in front of the lens, the invention of the exhibitor. They are untouched, and there is no double printing. Mr. Lyddell Sawyer, of Newcastle, England, contributes a dozen photographs with exceedingly skillful artificial light effects. Mr. Francis Blake, of Auburndale, exhibits a most interesting collection of instantaneous views of lawn-tennis players, taken in every conceivable attitude. Messrs. E. J. Hall, Jr., R. D. Sears, James Dwight and Thomas Pettit were the subjects chosen for treatment. Mr. Blake also exhibits pigeons in flight, and a locomotive running at the rate of 48 miles an hour. The exposure was .004 of a second ; and Mr. Blake's work is unquestionably superior to that of Muybridge. Mr. Benjamin Kimball, of Boston, contributes about forty portraits and landscapes of rare value. Many of the portraits are striking likenesses of faces often seen in our streets. Nor should the portraits by Mr. J. L. Breese, of New York, the Egyptian views by Mr. Emmons, of London, the scenes in Holland by Miss Slade, of New York, the studies by Mr. J. C. Lee, of Boston, the landscapes by Mr. Pancoast, of Philadelphia, and the delicate fancies of Mr. Dumont, of Rochester, be passed over without warm words of commendation. There is hardly any padding in the exhibition. Nearly every number deserves respectful consideration.

"The Board of Judges, consisting of Messrs. I. M. Gaugengigl, F. P. Vinton and C. Howard Walker, have announced their awards as follows, each award being given for the entire exhibit of the exhibition. Messrs. Francis Blake, of Auburndale, Mass.; William S. Briggs, of Boston, Mass.; Arthur R. Dresser, of Kent, England; Hamilton Emmons, of London, England; Benjamin Kimball, of Boston, Mass; J. P. Loud, of Boston, Mass.; George M. Morgan, of Boston, Mass.; Charles R. Pancoast, of Philadelphia, Pa.; Lyddell Sawyer, of Newcastle, England; Alfred Stieglitz, of New York; F. D. Todd, of Edinburgh, Scotland; Clement Williams, of Halifax, England, have each received the medal of honor. The medal itself is an honor to the designer and the skilled workmen who fashioned it in bronze. Mr. L. S. Ipsen, of Boston, made the original design, and the Shreve, Crump & Low Company made the mold and cast the medal. The head is that of Daguerre.

"The Board of Judges awarded diplomas to the following exhibitors: J. W. Alexander, of Yonkers; H. W. Belknap, of Boston; C. I. Berg, of New York; J. L. Breese, of New York; J. G. Bullock, of Philadelphia; Miss E. V. Clarkson, of New York; W. S. Clow, of Philadelphia; Miss E. L. Coleman, of Boston; C. C. Cole, of England; C. H. Currier, of Boston; W. H. Dodge, of Lowell; J. E. Dumont, of Rochester; O. A. Ames, of Boston; G. H. Eaton, of Boston; Miss S J. Eddy, of Providence; I. W. Evans, of England; W. A. Fraser, of New York; W. A. French, of Boston; H. M. Grisdale, of New York; M. J. Harding, of England; H. A. Latimer, of Boston; J C. Lee, of Boston; J. S. Mason, of Boston; C. B. Moore, of Philadelphia; G. A. Nelson, of Lowell; R. S. Redfield, of Philadelphia; E. T. Sherman, of Yonkers; Miss E. A. Slade, of New York; J. L. Stettinius, of Cincinnati; W. O. Witherell, of Boston; Mrs. J. O. Wright, of New York.

"The diploma is a beautiful piece of work. The original photographic design was made by Mr. Benjamin Kimball, and was adjudged by Mr. C. Howard Walker the best design submitted in a competition open to members of the Photographic Society of Philadelphia, the Society of Amateur Photographers of New York and the Boston Camera Club.

"Nor should the catalogue itself be passed by unnoticed, with the tasteful design of Mr. Ipsen for the cover; with the exquisite reproduction of sundry negatives in photogravure, gravure-etching and gelatine prints. The reproductions are printed on Japanese and plate paper; the text is an admirable specimen of printing; and, in a word, the catalogue itself is a work of art. In the preface Mr. Kimball speaks of the exercise of the artistic powers that must be shared alike by the photographer of the first rank and the painter; of the selecting the picture 'with reference to its composition of lines, masses of light, shade and texture;' of the determining the width of angle or the scope of the picture, etc. He shows the wide range of expression in printing; how 'the various toning baths and the pigments of carbon films open an infinite variety of colors, comprising the lustres of gold, silver, platinum and other metals, deep charcoal blacks and the chalk reds of Botticelli.'

"Mr. Kimball, in conclusion, trusts that in work with the camera 'there may be those who will win for the honor of their art and themselves the title of "painter photographers."' Surely, no painter, however conservative he may be, or however jealous of his own art, can fail to recognize the marvelous advance made in photography, or now deny to photography its proper place among the arts. And in the exhibition now open is seen fully the glory of an art that was not long ago, and perhaps not unjustly, regarded merely as 'a process in which tools and chemical agents worked automatically and produced a lifeless result, with nothing of the æsthetic or artistic selection, composition or treatment.'

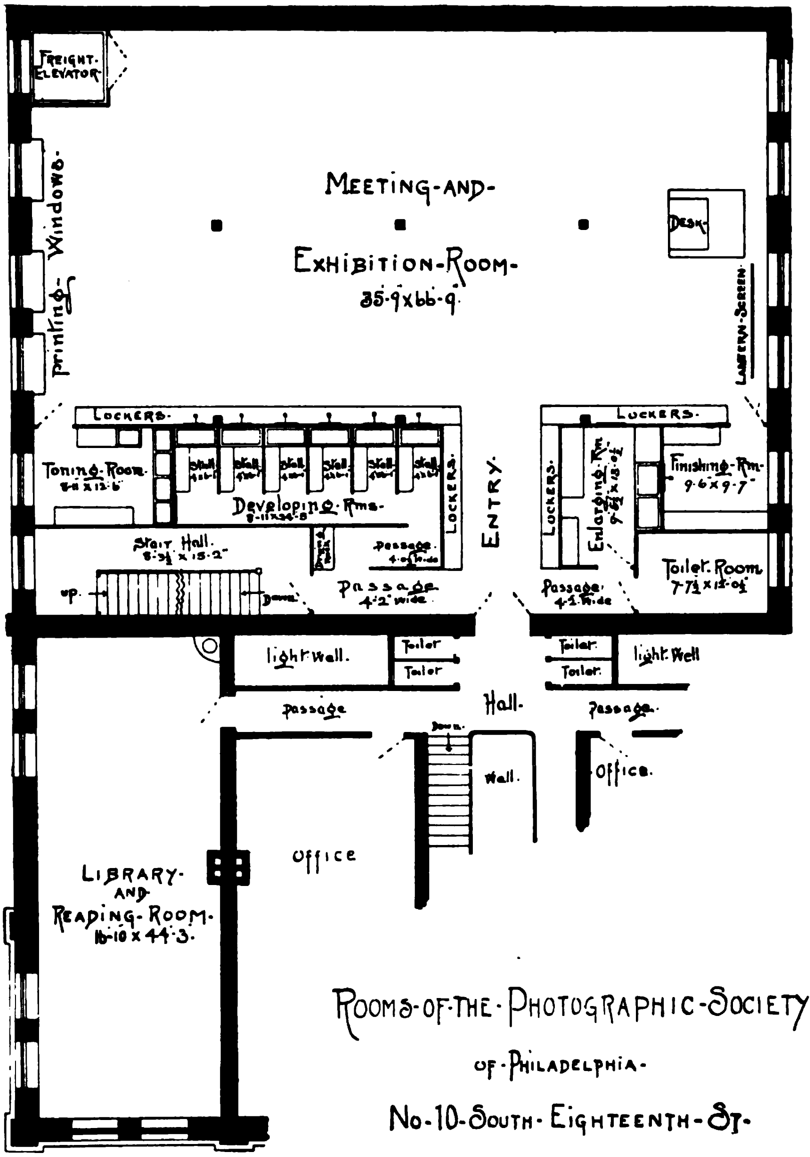
"An interesting feature of the exhibition is the display of 'lantern slides,' which will take place each evening between 9.30 and 10 o'clock.

"The joint exhibition of 1893 will be held in Philadelphia."

NOTE.—It is quite remarkable that the very day the exhibition opened, Mr. J. Foxcroft Cole (previously selected to act as one of the judges, and an acknowledged authority) suddenly died. This left a vacancy, which was hastily filled by C. Howard Walker.

Society News.

[Under this head we propose to publish all society matters of scientific or technical value which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]



Rooms of the Photographic Society of Philadelphia No. 10 South Eighteenth St.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

The diagram gives a very fair idea of the arrangement of the new quarters of the society, located on South Eighteenth street, just south of Market street. The location is quite central and convenient. The room is on the first floor, above the street, so that no elevator is required. Going up the stairs, the door in front, at the landing, leads to the main meeting-room, while to the left, at the end of a second hallway, is the entrance to the library and general club-room, 17 x 44 feet, lighted by six windows, and having a front on South Eighteenth street. It is tastefully furnished with gas-fixtures, tables, comfortable chairs, handsome library cases, desks and rugs, and will be a most attractive meeting-place. Passing from the hall at the head of the stairs into the meeting-room, one is struck at once with its large size, provided with good-sized windows at each end. Ventilation of the best sort is obtained. The wall opposite the entrance is wainscoted and painted a neutral brown tint, on which are hung prints from time to time. It is lighted from above by gas-jets, like those arranged in picture galleries — a very desirable point. The ceiling is quite high, which enables lantern-slides to be shown to good advantage. The lantern apparatus is carried around from one point to another on a movable elevated stand which is quite conveniently arranged.

Special attention has been given to the working facilities, which are located on what may be termed the front side of the room on each side of the entrance or entry. To the left is the dark-room, entered by a serpentine entrance which excludes daylight. There are a series of sinks, set in separate stalls, similar to those of the New York society; but the hypo is to be supplied on top from one central tank. Each sink has good facilities for washing plates. In front is a large, square balanced window, having an orange-colored glass ground on one side, and inside a sash of ruby glass. Outside is an argand gas-jet, controlled by a faucet inside, permitting any degree of intensity of light to be readily obtained. Should the light be accidentally turned out, it has to be relit from the outside. At some future day it is expected electricity will take its place. A feature we have not observed in other dark-rooms is the ample drying-closet set back of the rear wall of the dark-room and opening into it. It has two stories, and holds a large number of plates. Its top is connected by a special flue to a chimney, which makes a steady, gentle draft of air through the plates. In this way they dry very rapidly.

Quite a commodious toning-room, to the left of the dark-room, is provided with ample shelves and five slate sinks for the washing, toning and fixing of silver prints. There are also facilities for platinum-printing. The window in this room is screened with two yellow shades, supported on spring rollers. Conveniently near by are large windows, facing the south, for silver-printing.

To the right of the entry, between it and the windows on Market street, are the enlarging, finishing and toilet rooms, of convenient size, supplied with suitable shelves and benches. The black, square dot shown at the end of the enlarging-room is the location for the arc-light. Inasmuch as a fine north light is to be had at the window in the finishing-room, it is somewhat surprising this was not taken advantage of for enlarging, since negatives could be perfectly illuminated without a condenser. There being a printing establishment on the ground floor underneath will necessitate, when the same is in operation, some kind of suspended cradle for the camera and easel, to avoid the jarring of the easel. The outside of the partitions of the several rooms are utilized as a backing for lockers. They rise three and a half feet from the floor, and each is fitted with sliding shelves, which enable the owner to adapt the locker to any size package or camera he may wish to store.

The place is not yet equipped with much apparatus, but before long a complete lantern slide-making apparatus will be put up, and backgrounds and portrait cameras and lenses supplied. The meeting-room will accommodate an audience of three hundred or more.

Stated Meeting, March 9th.—A stated meeting of the society was held Wednesday evening, the president, Mr. John G. Bullock, in the chair.

The Board of Directors reported the election of the following active members: Henry Pettit, Francis B. Warner, Wikoff Smith, Samuel P. Sadtler, Harry W. Jayne, M.D., Justus Henry Schwacke, Charles T. Goodwin, James F. Wood, Harry Ashmead Lewis, Charles H. Adams, Paul J. Sartain, M.D., Elisha Douglas Shaw, Chas. W. Beck, Jr.

On the evening of February 23d the first of the series of special entertainments was given at the Association Hall. It consisted of an exhibition of lantern-slides, representing the work of about fifty members of the society, and was well attended by an appreciative audience.

At the conversational meeting, February 24th, interchange lantern slides from the Detroit Lantern and Camera clubs were shown.

Nominations for officers and directors for 1892–'93 were made. On motion of Dr. Mitchell, with a view to increasing the revenue of the society and extending its usefulness, the incoming Board of Directors were requested to consider the feasibility of establishing some form of associate membership.

Mr. Cheyney introduced a resolution to amend the by-laws so as to make the initiation fee of active members $10 instead of $5, as heretofore. In accordance with the rules, action on the proposed amendment was deferred until the next stated meeting.

Mr. Cheyney read a paper on "Photographic Objectives," which was discussed at length by the members.

Mr. Pancoast asked if it would not be a good thing for manufacturers to mark on the lens-tube the exact equivalent focus, in addition to the optical centre, as suggested by Mr. Cheyney.

Mr. Cheyney moved that a "Committee on Standards" be appointed by the president, with power to appoint sub-committees relative to such standards as were necessary to be adopted in connection with the description and marking of lenses by manufacturers.

Mr. Pancoast inquired whether, in a batch of, say fifty lenses, supposed to be of 10-inch focus, there would be much variation.

Mr. Redfield said that one of his lenses, nominally 11-inch focus, was actually 12-inch equivalent focus, as near as he could calculate.

Mr. Cheyney had had lenses which varied as much as two inches, and Mr. Carbutt mentioned certain variations in lenses in his possession which were made by celebrated makers.

Dr. Mitchell called attention to the new lens made by the Bausch & Lomb Company —the Zeiss anastigmat—made of the new Jena glass. This lens was constructed on a rather different principle from others. It was a double combination, the back combination consisting of three lenses cemented together, while the front combination consisted of two. The makers claimed for this lens that it was entirely free from astigmatism, and that it covered the plate sharply from the centre to the edge without any diminution in the illumination; that it worked more rapidly than the ordinary lens, and was, of course, absolutely rectilinear.

It was particularly a wide-angle lens, having about the same length of focus and angle as a Ross portable symmetrical. He (the speaker) had not seen the lens, but had simply given a synopsis of what he had read in the catalogue.

In response to a remark from Mr. Wood, who stated that he could turn the rack in focusing quite a little distance to and fro without any apparent effect on the sharpness of the image, Mr. Cheyney said that distance was covered by the depth of focus of the lens. An optician had told him that as the blue rays were refracted closer to the lens than the yellow rays, in getting a fine focus always shorten up and then rack out; don't go out and then come in. Thus they would get a finer focus, because, if the eye made a slight error, by this method they would get advantage of the fact that the blue rays which made the picture ran a little closer in.

Mr. Ives stated that lenses might be over- or under-corrected, and some lenses would have the chemical focus back of the focus of the yellow rays, and others in front. The majority of lenses were supposed to be exactly correct for the centre of field, but this was seldom the case. He had had lenses with the chemical focus back of the visual focus. Such lenses used to be quite common some years ago.

Dr. Sharp, referring to the new Jena glass, said that it was used quite extensively in microscopical lenses, and it was far superior in that it did away with a great deal of refraction, gave a flatter and better field and was much finer for photomicrography.

Mr. Cheyney said the description of this glass was a great deal like the descriptions of the lenses. The difference between a lens and a pin-hole was very slight in their relative rapidity—*i. e.*, if the pin-hole had a corresponding ratio to the focal length of the lens to be put there, and the same diaphragm used as the size pin-hole represented, the difference in speed was immaterial — it could not be distinguished. If they had a diamond lens it would make no difference. All this glass could do was to give them the power of covering more field sharply. As for the talk about one lens being faster than another, if the holes through which the light passed were of the same relative size to the focal length, there would be no difference in the speed of the two lenses, unless one of them were made of the most abominable glass.

Mr. Carbutt inferred from this that Mr. Cheyney did not believe in Jena glass.

Mr. Cheyney said he did believe in it, but there was no difference in the speed under the conditions he had just mentioned.

Mr. Carbutt begged to differ; he thought there was.

Mr. Ives stated that he thought the whole matter was explained by the fact, not generally understood, that the ordinary glass used in constructing photographic lenses was practically opaque to some of the violet rays. It might be that the new Jena glass allowed more of the violet rays, to which the photographic film is sensitive, to pass through it than did the ordinary glass heretofore used.

Mr. Stirling spoke next upon the subject announced by circular — viz.: "Recent Appliances for the Optical Lantern." He desired to call the attention of the members to two matters in that connection. They were all familiar with the subject of the telephotographic lenses referred to at the last meeting. As was well known, this consisted merely in the adaptation of the photographic objective and the eyepiece of the old Galilean telescope.

Referring to the application of this principle to photographic lenses recently made by Mr. Dallmeyer, of England, and Dr. Miethe, of Germany, Mr. Stirling thought it was worthy of record that so long ago as the Spring of 1891 the same idea was taken up by a Philadelphia optician, and applied in a slightly different way, though utilizing exactly the same principle. He referred to Mr. Knipe, of Queen & Co.

It occurred to Mr. Knipe that by using the amplifier of the microscope back of the objective of the lantern, he could increase the power in the hands of the lantern-operator. His application for a patent was filed last April, so that if priority for the adaptation of an old principle could be claimed, that honor was certainly due to Mr. Knipe, of Philadelphia. The name given to this adapter was the "multifocal attachment," his idea being that the use of a double-concave lens back of the objective provided a series of image-producing points, and by adjusting the distance of the lenses, images of various sizes could be thrown upon the screen.

After adjournment Mr. Stirling gave a practical demonstration of the powers of the "multifocal attachment."

The other matter in connection with the lantern, Mr. Stirling said, was the making and storing of oxygen. Those who had tried the old process of making oxygen as they needed it, and using it from rubber bags, knew what an insufferable nuisance it was. The English operators presented rather a contradictory spectacle. In America rubber bags had been almost entirely abandoned, while in England they were still used to a very considerable extent. Within the last year or two, however, a London company has been organized to make oxygen by a different process from the one heretofore used, and it had been introduced in small steel cylinders, in which the oxygen was compressed up to 1,800 pounds, or 120 atmospheres. These cylinders were now used to a great extent in England, and their portability alone, if there was nothing else to recommend them, was sufficient to insure their favorable consideration, when compared with the cumbersomeness of the cylinders used in this country.

Mr. Stirling here introduced to the members Mr. Charles William James, manager of the New York Oxygen Company.

Mr. James illustrated the use of the steel cylinders or bottles containing oxygen and hydrogen gas, and explained at length the process by which oxygen was made by the company he represented. He was materially aided in this by diagrams thrown upon the screen.

Mr. James stated that the safety devices used in connection with these cylinders were such as to practically preclude all possibility of accident; the smaller sizes were light and could easily be carried under a man's arm, and every cylinder was tested at a pressure of two tons to the square inch. The consumption of gas for an ordinary single light lantern would average five to seven cubic feet per hour. The cylinders exhibited contained forty cubic feet.

Mr. Cheyney exhibited a simple device which he had made, modeled after the new telephotographic lenses. Various slides from negatives with this apparatus were shown upon the screen.

Mr. Redfield called attention to the fact that the perspective in pictures taken with such a lens, while correct for the distance from which they were taken, was not the same as it would be if taken with a lens of the ordinary focus from a point at which the same amount of detail would be plainly visible to the human eye. It was therefore as unnatural, in the opposite direction, as the perspective of an object taken at too close quarters with a lens of wider angle than the eye takes in naturally. While he believed fully in the use of long-focus lenses of the ordinary type, and that this lens would undoubtedly be of great value in certain directions, he thought it proved that from an artistic standpoint lenses could be too long as well as too short in focus.

Mr. John R. Clemons showed several plain silver prints toned in ordinary gold solution with the addition of the chloride of aluminum. The result was a peculiar warm brown tone of great beauty, with very clear whites.

Adjourned. ROBERT S. REDFIELD, *Secretary.*

Annual Meeting, April 13th, 1892.—The annual meeting of the society was held Wednesday evening, the president, Mr. John G. Bullock, in the chair.

In accordance with the resolution passed at the last stated meeting, the appointment of the following Special Committee on Standards was announced: Professor Benjamin Sharp, George W. Hewitt, Theodore H. Luders, Lewis T. Young and William H. Walmsley.

The monthly report of the Board of Directors announced the death of four active members since the last meeting, as follows: Messrs. Thomas Hockley, Louis Reichner, Jr., William L. Springs and William A. Cheyney.

The following persons have been elected to active membership: George W. Norris, James Douglas Blackwood, M. Grahame Hallock and Allen G. Miller.

At the conversational meeting, March 23d, American Interchange Lantern-Slides from Chicago and St. Louis were shown.

The annual report of the Board of Directors was read by the secretary, and was a notable record of the prosperity and usefulness of the society. The principal events in the history of the society were recited, among which may be mentioned the following:

April 8th, 1891.—*Discussion:* "New Developing Agents." *Paper:* "A Suggestion for a Possible Method of Identifying the Colors Photographed, by J. F. Sachse.

May 13th, 1891.—*Demonstration:* "Toning of Omega Paper," by C. E. Hopkins (a visitor).

June 10th, 1891.—*Paper:* "On the Preliminary, Secondary and Supplemental Lighting of the Photographic Plate," by J. F. Sachse.

October 21st, 1891.—*New Room*, at 10 South Eighteenth street, first occupied for meeting.

October 28th, 1891.—*Illustrated Lecture:* "Photography in the Arctic Regions," by Professor Benjamin Sharp.

November 11th, 1891.—*Paper:* "Preparing Strong Ferrous Oxalate," by Caspar W. Miller. *Competitive Exhibition* of Hand-Camera Lantern-Slides.

January 13th, 1892.—*Discussion:* "The Permanence of the Undeveloped Image on Dry Plates."

January 21st, 1892.—*Competitive Exhibition* for Honor Pictures.

February 3d, 1892.—*Illustrated Lecture:* "Switzerland — The High Alps," by C. L. Mitchell, M. D.

February 10th, 1892.—*Paper:* "The Fading of Silver Prints," by Ellerslie Wallace, M. D.

February 23d, 1892.—*Public Exhibition* of Lantern-Slides; the work of members.

March 9th, 1892.—*Paper:* "Photographic Objectives," by W. A. Cheyney. *Discussion:* "Recent Appliances for the Optical Lantern."

March 15th, 1892.—*Illustrated Lecture:* "Picturesque Norway," by C. L. Mitchell, M. D.

April 5th, 1892.—*Illustrated Lecture:* "From Philadelphia to the Grand Cañon of the Yellowstone," by Frederic E. Ives and Wm. N. Jennings, with natural color photographic projections.

During the year 6 members have been lost by death; 34 new members were elected; the total number now on the roll being 200, or about the same as at the date of the last report. In view of the fact that the annual dues had recently been doubled, this fact was considered very gratifying.

The increased interest and usefulness of the stated meetings were shown in the fact that the average attendance had increased twenty-five per cent. over that of last year.

The Special Committee on Entertainments reported that the three public entertainments in aid of the Home Fund had been very successful, resulting in a net profit of $525.61.

Action on the amendment to the by-laws proposed at the last stated meeting, to increase the initiation fee of active members to ten dollars instead of five, resulted in the defeat of the resolution.

The election for officers and directors for 1892-93 resulted as follows:

President, Joseph H. Burroughs; vice-presidents, Edmund Stirling, Charles R. Pancoast; secretary, Robert S. Redfield; treasurer, George Vaux, Jr.; directors, John C. Browne, Charles L. Mitchell, M. D., John C. Bullock, William H. Rau, Frederic E. Ives, Samuel Sartain, George M. Taylor, John Carbutt.

An illustrated lecture was given by Dr. Benjamin Sharp, his subject being "A Trip Through the West Indies," which was followed by a demonstration of the process of making lantern-slides with gelatine dry plates.

Adjourned. ROBERT S. REDFIELD, *Secretary.*

The society held a public lantern-slide exhibition on the evening of April 20th, showing the English slides of the London Lantern Society and the prize slides of the English *Amateur Photographer.*

Mr. Frederic E. Ives requests that the following correction should be made in regard to the discussion reported at the stated meeting of the Photographic Society of Philadelphia on March 9th. He is reported as saying that "ordinary optical glass is opaque to some of the violet rays," but what he actually said was that it was "opaque to some of the *ultra*-violet rays."

THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—*Special Meeting, Tuesday Evening, April 5th.*—Vice-president Robt. A. B. Dayton occupied the chair. The subject was a "Demonstration of the Carbon Process," by Dr. Leo Baekeland. (See abstract of his remarks on page 204.)

Tuesday Evening, April 12th, Eighth Annual Meeting.—Vice-president Dayton in the chair. Roll-call showed fifty-four active members present. The president, Mr. James H. Stebbins, Jr., being absent in Nassau, no report from him was read. The secretaries and treasurer read reports, and communications about photographing at the World's Fair were also read. The following officers and directors were elected: President, R. A. B. Dayton; vice-president, L. B. Schram; treasurer, C. C. Roumage; recording secretary, T. J. Burton; corresponding secretary, W. F. Hapgood; directors, James H. Stebbins, Jr., R. L. Bracklow, J. Wells Champney, James Spies, F. C. Elgar, E. Warrin, H. S. Mack, H. A. Smith. Mr. Roumage showed an improved Geni magazine hand-camera. Mr. F. C. Beach spoke of experiments he had made with recent developers, and urged that the society prepare an exhibit for the World's Fair.

Friday Evening, April 22d.—"Glimpses of the Arctic Regions," an illustrated lecture by William Bradford, Esq., was given. A few hours after the lecture, at his studio, Mr. Bradford was stricken with a paralytic stroke, and died on the morning of April 25th. He was about seventy years old.

Friday Evening, April 29th.—Dr. Charles L. Mitchell, of Philadelphia, repeated his interesting lecture on "Norway," given in Philadelphia in March. The slides were made from orthochromatic-film negatives, and were excellent.

NEW YORK CAMERA CLUB.—On Monday evening, April 11th, before a crowded house, Mr. Fred E. Ives, of Philadelphia, lectured on his new invention of reproducing "Photographs in Colors," and showed twenty or more slides on the screen, illustrating his idea. The presentation of each colored picture was greeted with applause, and they were acknowledged to be a great advance in the art so many are striving after. A picture of a log cabin was noticeable in bringing out the peculiar red color of the logs, the varying green of the foliage and the violet-blue of the sky.

Mr. Ives describes his process briefly as follows:

"By means of a very ingenious compound camera front three photographic negatives of the object are made by simultaneous and equal exposure from the same point of view and upon the same sensitive plate. The photographic plate is sensitive to all colors of light, but by introducing light-filters, one of the negatives is made by such light-rays only as excite the fundamental red sensation, and in due proportion; another by light rays as they excite the fundamental green sensation, and another by light-rays as they excite the fundamental blue-violet sensation.

"From this triple negative a triple lantern-slide is made, which, although it shows no color, contains such a graphic record of the natural colors that, in order to reproduce them to the eye, it is sufficient to superpose the three images, one with red light, one with green and one with blue-violet. This is accomplished either in Mr. Ives' new heliochromoscope, a device about the size of a hand-stereoscope, and used in much the same way, or by projection with a special optical lantern having three optical systems, with red, green and blue glasses. The three images being exactly superposed, appear as one only, in which the natural colors are exactly reproduced, together with the light and shade. Images of three ordinary photographs, exactly alike, if sùperposed in the same way through the same colored glasses, would show no color whatever.

"The process is as scientifically accurate for reproduction in color as ordinary photography is for reproductions in monochrome; but at present can be carried out successfully only by a scientific expert employing the photo-spectograph for testing the sensitive plates and adjusting the selective color-screens. When such preliminary adjustments have been correctly made, the process is almost as simple and reliable as the ordinary negative process.

"By modification of the process, introducing further complication, color prints are made on glass or paper; but the comparative simplicity of the plan of superposing images commends it to scientists and is more convincing to the general public."

He was accorded a vote of thanks at the close of the lecture. On introducing Mr. Ives, President David Williams remarked that he had been invited to read a paper and demonstrate his invention before the Royal Society of Great Britain. He sailed the latter part of April for England, and intends to spend the Summer abroad, and show his invention to different scientists.

Monday Evening, April 25th.—At a special meeting of the club, Mr. Starks W. Lewis, of the Brooklyn Academy of Photography, entertained the club with his slides of "Views of the Berkshire Hills."

HIAWATHA CAMERA CLUB, OF MINNEAPOLIS, MINN.—On the evening of April 19th Prof. Wilson, of Northfield, Minn., lectured on "Astronomical Photography." Pictures by members of the club were shown.

BROOKLYN ACADEMY OF PHOTOGRAPHY.—On the evening of March 21st the lantern-slides of the Newark Camera Club contributed to the Conference Lantern-Slide Interchange were shown, and much liked. On Wednesday evening, April 27th, the conference set of lantern-slides by the Society of Amateur Photographers of New York were shown to a large and appreciative audience.

CHICAGO CAMERA CLUB.—At the annual meeting of the club, held on April 14th, a lantern exhibition illustrating "A Trip to Pike's Peak" was given by the joint work of Mr. James Abbott and Mr. R. P. Harley. Mr. Abbott read a descriptive lecture, after which the election of officers took place. The result has not yet been made known.

PHOTOGRAPHIC CLUB OF BALTIMORE CITY.—On the evening of April 25th the club exhibited the lantern-slides of the London Lantern Society to a large audience.

CINCINNATI CAMERA CLUB.—During the latter part of April, at a lantern-slide exhibition by the club, the slides of the St. Louis and Chicago clubs and the English *Amateur Photographer* prize slides were shown.

PORTLAND CAMERA CLUB.—The club held a special public lantern-slide exhibition on April 25th, showing the English "*Photography*" prize set of slides.

SAVANNAH SOCIETY OF AMATEUR PHOTOGRAPHERS.—The society gave its first exhibition of lantern-slides at the Y. M. C. A. Hall on the evening of March 10th. The views embraced the Yellowstone Park, the Hudson, White Mountains, Pompeii, Naples, and other places. Several local views were shown of good quality. Vice-president Dr. White entertainingly described the slides.

WASHINGTON (D. C.) CAMERA CLUB.—At the annual election of the club, held in February, the following officers were elected: W. St. George Abbott, M. D., president; Robt. Reyburn, M. D , vice-president; W. B. Waite, secretary; Miss Frances B. Johnson, corresponding secretary. The club is to have specially built quarters on Connecticut avenue.

CHATTANOOGA (TENN.) PHOTOGRAPHIC SOCIETY.—On March 5th a number of amateurs met, organized and elected as officers of the new association: President, S. S. Dodge; vice-president, J. C. McDonald; secretary and treasurer, W. M. Brown. Committees were appointed to draw up by-laws and to report on membership. The dues were fixed at 25 cents per month. Meetings are to be held once a month. At a later meeting it was voted to call the club the "Lookout Camera Club."

ROCKFORD CAMERA CLUB.—During the month of March several amateurs of Rockford, Illinois, met and decided to organize a club. Many ladies are to be among its members, Mrs. Blinn having been elected secretary. The organization will apply for membership in the American Lantern-Slide Interchange.

COLUMBUS CAMERA CLUB.—The club has lately fitted up excellent quarters for the use of its members and visitors. It has a well-ventilated dark room, accommodating eight persons at one time, and a pleasant, well lighted studio.

PROVIDENCE CAMERA CLUB.—At the annual meeting, held early in March, the following officers were elected for the ensuing year: President, R. Clinton Fuller; vice-president, O. C. Goodwin; corresponding secretary, J. A. Miller, Jr.; recording secretary, Chas. E Hudson; treasurer, A. B. Ladd; librarian, S. B. Burnham; Executive Committee, R. C. Fuller, O. C. Goodwin, J. A. Miller, Jr., Chas. E. Hudson, A. B. Ladd, S. B. Burnham, C. A. Stoddard, H. J. Reynolds and E. Q. Gladding.

From reports read previous to the election of officers, it was shown that the club was in the best standing, financial and otherwise, that it has ever been. After the election there was a collation served.

PHOTOGRAPHIC SOCIETY OF WATERBURY.—The print exhibition, terminating on April 23d, was very successful On the evening of April 22d the set of slides called "Picturesque Oddities," by the California Camera Club, was shown to a large audience. These slides form the set originally contributed to the Conference Lantern-Slide Interchange, but now turned over to the American Lantern-Slide Interchange.

PITTSBURG AMATEUR PHOTOGRAPHERS' SOCIETY.—At the annual meeting, held on the evening of April 19th at the rooms of the Academy of Science and Art, the following officers and committees were elected: President, W. S. Bell; vice-president, W. S. Clow; secretary, Jos. H. Hunter; treasurer, W. J. Hunker; Executive Committee, L. S. Clarke, H. R. Moorhead, W. S. Clow, C. C. Craft and O. H. Darlington; Committee of Arrangements, Geo. D. Heisey, T. K. Gray and W. J. Hunker; House Committee, O. H. Darlington, H. W. Beymer, C. C. Craft, Geo. D. Heisey and T. K. Gray.

NEW ORLEANS CAMERA CLUB.—On the evening of April 12th the club gave its twenty-sixth complimentary lantern exhibition, at which were shown the London Lantern Society slides.

THE TORONTO CAMERA CLUB.—The club went on an outing on April 15th to High Park. After a hearty dinner the party returned home. It is said some excellent pictures were secured.

MONTREAL CAMERA CLUB.—The second Annual Lime Light Exhibition of the club was held in Y. M. C. A. Hall on April 2d, and was very successful. The pictures showed much improvement over those exhibited last year. The president of the club, Mr. Henderson, gave a short opening address, describing the object of the club and its work during the past year.

ST. LOUIS CAMERA CLUB held its annual meeting on April 5th, at its rooms, 911 N. Vandeventer avenue. Mr. J. B. Holman, the retiring president, read a lengthy report, describing the past trials and present success of the club. The report of Mr. Wm. M. Butler, the retiring secretary and treasurer, showed that the total receipts for the year were $919.50; total expenditures, $850.60, leaving a balance of $68.90. The club has fifty-six active, three associate and eight honorary members. The following officers were elected: William M. Butler, president; John W. Dunn, vice-president; Charles M. Alexander, secretary and treasurer; J. Frank Hickman, assistant secretary.

Mr. William Mulford was elected a director on April 18th, to represent the club in the American Lantern-Slide Interchange, in place of Mr. H. B. Alexander, resigned.

NEWARK CAMERA CLUB.—At the annual meeting of the Newark Camera Club, held at the club-rooms, 828 Broad street, Monday evening, April 11th, the following officers were elected for the ensuing year: President, Paul L. V. Thiery; vice-president, Thomas A. Hine; secretary, David S. Plumb; treasurer, Frederick T. Fearey.

TOLEDO CAMERA CLUB.—At the regular monthly meeting of the club, held on April 4th, it was voted to have an outing on Decoration Day, and a committee was appointed to arrange for same. A committee was also appointed to arrange for a lantern-slide exhibit to take place the latter part of the month. The results of the Winter contest were announced. Mr. W. W. Wales, holding the lucky number, was awarded the club prize, a camera and lens.

THE CALIFORNIA CAMERA CLUB held its annual meeting for the election of officers at the rooms of the club, 819 Market street, on the evening of March 8th.

President G. W. Reed having sketched the history of the club for the year, Secretary T. P. Andrews gave the following particulars: Expenses of the year, $4,735.05; receipts, $4,780.33. Sixty-seven active, twelve associate and 286 subscribing members were added to the roll in 1891. The following officers were elected for 1892: President, H. B. Hosmer; first vice-president, H. C. Tibbitts; second vice-president, S. M. Smith; secretary, T. P. Andrews (re-elected); treasurer, G. W. Reed; corresponding secretary, C. A. Adams; librarian, H. C. Owens; directors — A. G. McFarland, E. L. Gifford, G. R. Butler, W. J. Street. The meeting terminated with an exhibition of lantern-slide views, illustrating subjects collected in all parts of the world, which were most artistically rendered and described to an interested audience.

March 24th.—The twenty-second illustrated lecture was given at the Metropolitan Temple, the subject being "English Scenery," by Charles Albert Adams. The lecture was illustrated by a number of slides sent out by the London Lantern Society. Eighty-five views of English Scenery were shown. During the intermission Dr. Thomas L. Hill recited an amusing monologue entitled "The Hat," and Mr. Coffin rendered Arditti's tenor solo, "Let Me Love Thee."

March 30th.—An exhibition of slides, including the work of members and of the Albany and Syracuse camera clubs, was given at the rooms of the club. The audience was composed almost exclusively of members of the club, and all took a lively interest in the many excellent scenes thrown on the canvas by the stereopticon. The views consisted of 180 slides from the Albany and Syracuse camera clubs, and were very fine all through. They displayed much artistic merit, many of them being photographic gems. As the slides were shown on the screen their artistic qualities were explained by O. V. Lange, and their technical points by George W. Reed. The exhibition was given as an object lesson in photography to the members of the club.

Hereafter the club will meet on Wednesday night of every week for photographic talks and class work. It has also been decided to give two or three exhibitions a month in kindergartens and hospitals, as a means of entertainment for the inmates. Last night W. R. Hearst, E. Fulda and R. Dinglinger were elected members of the Camera Club.—*San Francisco Examiner, March* 31, '92.

April 5th.—At the regular monthly meeting Mr. O. V. Lange delivered his second lecture on "Art," entitled "Composition Lines and Masses."

April 6th.—The first informal club talk took place.

April 10th.—An outing to San Mateo and back to the Big Dam at New Crystal Springs was made.

April 13th.—Mr. O. V. Lange read a paper on "Development."

April 15th.—Mr. George Bidwell entertained the club with his lecture and slides on "Prison Life."

April 16th.—Through the courtesy of Miss J. F. Banks, a member of the club, a very interesting marine outing was made on the steamer "Caroline" around the Bay of San Francisco.

April 20th.—A lecturette and demonstration on "Silver Printing on Albumen Paper," by W. R. Waters, was given.

April 22d.—Occurred an exhibition of lantern slides from the Buffalo and Detroit camera clubs.

April 29th.—The twenty-third illustrated lecture was given at the Metropolitan Temple on "The Valleys and Lakes of Switzerland," by Charles H. Steele, A.M., M.D.

Photographic Section, Manhattan Chapter, Agassiz Association.—On Friday evening, April 8th, at 141 East Fortieth street, Mr. Herman Bucher, Jr., spoke on "Orthochromatic Photography," illustrating the subject with color-tables and screens and specimens of work on ordinary and orthochromatic plates. The section will hold its second annual exhibition of photographs the latter part of May—20th to 27th—at 139 East Fortieth street, New York. A catalogue is to be printed, and exhibitors are to have the privilege of hanging and arranging their own pictures, a feature which is sure to relieve the committee of any suspicion of unfair treatment. The secretary of the section is Mr. Edward B. Miller, 141 East Fortieth street, New York.

Books and Exchanges.

Catalogue of the Spring Exhibition, 1892, of The Photographic Society of Waterbury.—A neatly gotten up book of seventy-five pages, with black cover and gilt letters, containing two photogravure illustrations, one a group of young ladies at an afternoon tea and the other what is left of an old Connecticut house. It is nicely printed, and forms a valuable souvenir of the exhibition.

Outing for May.—Breezy, seasonable, a magazine for ladies and gentlemen from cover to cover, is *Outing* for May. The plash of waters, the rustle of leaves, the spirit of pure, outdoor, healthful pastimes, enliven its eighty handsomely illustrated pages and make it what it is, a valued instructor in beneficial exercises, and an encourager of a closer intimacy with Nature's wondrous charms. The contents are as follows: "By Wheel from Havre to Paris," by J. W. Fosdick, illustrated; "George Dale's Ambition," by Lorenzo Griswold; "May Rides," by Jessie F. O'Donnell; "A Bout with a Kingfish," by Ed. W. Sandys, illustrated; "Harry's Career at Yale" (continued), by John Seymour Wood, illustrated; "The International Field Trials of 1891," by "Damon," illustrated; "A Day with Gun and Canoe," by "Nomad;" "Saddle and Sentiment" (continued), by Wenona Gilman, illustrated; "The Evolution of the Forty-six-Footers" (second paper), by George A. Stewart, illustrated by Cozzens; "The Race-courses of the East," by Francis Trevelyan, illustrated by Hy. Stull; "The Training of the Harvard Intercollegiate

Team of 1891," by John Corbin, illustrated; "The Maryland National Guard," by Hanson Hiss, illustrated; "From the German Ocean to the Black Sea" (continued), by Thomas Stevens, illustrated, and the usual editorials, poems, records, etc.

It contains, also, timely comments on "Photography for Women," by Miss Catharine W. Barnes.

CATALOGUE OF PHOTOGRAPHS, BOSTON CAMERA CLUB.—This beautifully printed and designed catalogue of eighty-four pages of large size forms an appropriate souvenir of the recent Fifth Annual Joint Exhibition, held at Boston, May 2d to May 7th. The cover is very neat and appropriate, and has outlines of the medal awarded by the club on its upper side, with other suitable photographic emblems on the sides. There are six beautiful full-page photogravure illustrations, all figure studies except three—one a "Forest in Winter," another "Salting the Sheep," and a third "A Rural Group," a landscape. The first illustration, by Mr. John C. Lee, is a splendid example of easy pose, soft lighting and clear, crisp photography. This picture alone is worth the whole price of the book—25 cents. All of the particulars of each frame of photographs is given, besides lists of lantern-slides and transparencies and of exhibitors. Copies may be had, we are informed, by sending the above amount, and four cents for postage, to Wm. S. Briggs, 50 Bromfield street, Boston, Mass.

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Publishers' Department.

[In justice both to ourselves and to those firms whose specialties are mentioned in this department, we desire to state that we neither ask nor receive compensation for such notices as are given. Any dealer or manufacturer who sends us samples of goods for notice will receive just what the merits of the goods deserve, no more and no less. Any apparatus sent us for trial and notice will be returned if so requested. This department is maintained in the interests of our readers, to whom timely notice of novelties may be valuable.]

CARBUTT'S FILMS.—We noted with pleasure at the late exhibition of the Philadelphia Photographic Society that out of the four honor pictures two were from negatives made on the Carbutt orthochromatic films and one on the same brand of plates, going to prove that orthochromatic photography as advocated by Mr. Carbutt has something in it, notwithstanding the efforts in some quarters to belittle what we consider one of the greatest advances in modern photography. The pictures above referred to certainly showed remarkable rendering of the color-values.

ANASTIGMATIC LENSES.—The new glass of Schott & Co., of Jena, Germany, is affording photographic opticians means for producing lenses of unusual clearness.

Investigations have resulted in the construction of two new types of photographic lenses—viz., an anastigmatic doublet and a triplet—which essentially differ in principle from all other lenses, and which, from the critique of numerous experts, are in several respects superior to any of the lenses hitherto constructed.

The lenses of either type are chromatically corrected for both the axial and extra-axial portions of the field; the photographic image is coincident with the visually focused image, and both are of equal magnitude. The lenses are, therefore, free from difference of focus and chromatic difference of magnification.

They are spherically corrected for the aperture of the largest of the diaphragms supplied with each lens, and a sharp image is, therefore, obtainable even with this largest diaphragm. Focusing is, accordingly, not affected by interchange of diaphragms, and the plate may be focused with any diaphragm other than that which is to be actually employed during exposure.

In computing the formulæ, particular attention has been paid to compensating, as far as possible, the evil effects arising from reflections. All the images due to reflection have successfully been brought into such positions as not to exercise any prejudicial influence on the "brilliancy" of the image. In this respect the new doublets, as described below, are hardly inferior to single lenses, while the triplets compare favorably, to say the least, with the usual lenses consisting of only two separate lenses.

The "flare-spot" does not show itself with any of these lenses; it does not even appear when dazzling light enters the lens.

The glasses used for these lenses are, with the exception of the apochromatic triplet—which necessarily contains a light borate flint—exclusively very colorless silicate glasses, and are, in a high degree, transparent to actinic rays. The lenses are, therefore, rapid in proportion to their effective aperture, and thus satisfy one of the great wishes of photographers, viz., combination of rapidity with depth of focus.

Both types of lenses are patented in Germany, Great Britain, France, Austria, Hungary, Italy, Switzerland and the United States.

The lenses will probably soon be placed on the American market, and are likely to be of unusual value for instantaneous work. Judging from examples we have seen, we think the especial claims will be sustained.

We have tried one of these lenses, manufactured by the Bausch & Lomb Optical Company, of Rochester, N. Y., and were surprised at its rapidity and remarkable covering power. There can be no difficulty in securing excellent instantaneous pictures after the qualities of these lenses become known.

THE BLAIR CAMERA Co.—Consolidation and enlargement seem to be the policy of this enterprising company. The firm of R. P. Harley & Co., Chicago, Ill., has been absorbed by the Chicago Blair Co. The latter concern has moved to larger quarters at 245–247 State street, Chicago, their salesrooms being conveniently located on the ground floor. The Philadelphia branch, at 918 Arch street, has also expanded, occupying more floors than formerly.

AN ACTINIC BULLETIN.—Messrs. E. W. Newcomb & Co., 69 West Thirty-sixth street, N. Y., have introduced a decidedly novel and very practical idea in the shape of a bulletin, issued three times a day, showing the actinic quality of the light according to the Watkins' Exposure Meter. This is hung in their store, and by means of it even a child cannot fail to expose correctly after seeing the time required for certain stops during certain hours. This is likely to be of great assistance, especially to beginners, and we desire to give our hearty commendation.

THE IMPROVED LENS.—In answer to many inquiries with reference to the improved lens mentioned in our April number, we desire to call attention to the advertisement of the same in our pages, and to say that the manufacturers are making a teleophoto lens for long-distance photography, to be shown by Miss Barnes at the Edinburgh convention.

THE PERFECTED BRADFISCH ARISTOTYPE PAPER.—This new paper is designed to be a substitute for ordinary silvered paper, with the advantage of having remarkable keeping qualities. The prints do not curl, crack or stick, while, as is usual in these papers, the details in a negative are brought out to perfection. It can be toned and fixed in one solution. The manufacturers, Bradfisch & Pierce, located in Brooklyn, N. Y., have issued a neat little book telling just how to work the paper successfully.

READY SENSITIZED ALBUMEN PAPER.—Mr. John Haworth, of Philadelphia, Pa., makes a superior paper which gives brilliant prints, is easily worked and uniform in quality. He stands by the old paper in preference to the new gelatino-chloride papers, and has acquired a success and reputation in supplying an article that can be depended upon, which few enjoy.

"Index Rerum Photographic," by Dr. John H. Janeway, U. S. A., continued from page 182, vol. iv.

has been substituted by a piece of Russia sheet iron will serve well for the purpose. On the top a thermometer is inserted, on which the degrees 120, 140, 150 are plainly readable, as the temperature should rise no higher. While the plate is drying, the negative to be printed is laid in the printing frame film side up, the sensitive plate, still warm, is laid film side down upon the negative, covered with a piece of black paper printing pad, and absolute contact secured by tightly closing the frame. All the manipulation, filtering the solution, coating the plate, drying and inserting in the printing frame, should be done in the dark room, by gas or lamp light, with perfect exclusion of daylight. Correct exposure is the first condition of success, and requires judgment and experience, the time depending much upon the character of the original negative. With long exposure brilliant, hard and even glassy negatives may be brought forth, while with short exposure more delicate, feeble and monotonous negatives will be the result. The shorter the exposure the less decisive the copy. With a very thin negative, and a brilliant duplicate of it desired, a comparatively long exposure would be required. When copying a very hard and dense plate, to change its character to that of softness and delicacy, a much longer exposure is required. As a general rule, with negatives of average quality, an exposure of from four to ten minutes in direct sunlight is generally correct, while in diffused light, or on a cloudy day, thirty minutes may be required to obtain the same results. Experience will soon teach the requisite. After exposure the printing frame is taken to the dark room, opened, and the plate removed for development. Before development certain conditions are to be considered. In winter time, at a low temperature, the printing frame and plates will soon cover with vaporous damp when removed to the warm dark room. In this condition graphite will adhere to every part of the plate, and give an uninterrupted black surface. To return the plate to the oven for a short time is therefore necessary. The work conducted in a damp room requires the same precautions. When the atmosphere is dry, warming the plate is unnecessary. To develop, the plate is laid upon a sheet of smooth white paper, and finely levigated and sifted graphite dusted upon it and distributed over its whole surface, by means of a soft, short-haired badger brush, at least one inch in width. It must be done with a circular motion, and with but slight pressure. The darker portions of the negative will become visible at once. A gentle continuous motion of the brush will develop the middle tint gradually, if exposure has been correct, according to the density of the original.

With over-exposure the darkest parts develop rapidly and increase in density, half-tones refuse to come, the duplicate is hard and glassy. When under-exposed the middle tints come simultaneously with the most intense portions, the graphite will adhere even to the lights, and the plate becomes feeble and monotonous. After the plate has been sufficiently developed, which must be judged by transmitted light, it is removed to daylight for accurate inspection. If satisfactory, the adhering graphite powder is dusted off with a clean brush or by means of a bellows, and exposed for fifteen minutes to strong sunlight, to solidify the undecomposed chromate, coated with a two per cent. plain collodion, and when set is removed to a tray with water, which dissolves all chromate still remaining in the film. The film adheres but very loosely to the glass support, and should be handled with great caution; be lifted from the water with care, drained off slowly, coated with a one per cent. gelatine or five per cent. gum arabic solution, and placed upon blotting paper in a vertical position, and allowed to dry. But if the negative must be turned or reversed into position of the original, it must not be brought into daylight—dusted well in the dark room, laid in a tray of water, to cover it at least an inch. The film is very tender, and a delicate pellicle will soon be seen to lift from the glass plate, adhering only to the edges. It is detached by a knife or wooden spatula, and it will freely float upon the water. Taking hold of it by the two corners, it is moved rapidly to the other side of the tray and turned by a dextrous movement of the hands. It now floats in a correct position. The glass plate is now lifted from the water, the film held to it with the finger on two corners, and the water allowed to run from between the plate and the film, and any possibly formed folds smoothed down. After the water is all drained off, it is coated with the gum or gelatine solution above described, and finally set aside to dry. It is claimed that the uses to which this process may be applied are as follows: 1. The reproduction of a negative reversed for photo-mechanical printing. 2. The reproduction of a transparency upon glass. 3. The production of a porcelain or opal in any color or pigment. 4. Strengthening a weak negative in whole or in part. 5. The production of artistic backgrounds in negatives previously without them. 6. The production of ceramic or vitrified photographs or suitable tablets. 7. The imparting to silver or other prints qualities other than those previously possessed by them.

E

EAR AND THE LIKENESS, THE—Particular value is now placed by some police departments on the ear in pictures taken of criminals falling in their hands, and it is found that this member is just as important in the recognition of an individual as the face, particularly as the former cannot be brought out of shape by willful distortion or change of features. No two individuals of different families have the same ear, but members of one family will generally have the same shape of ear.

EARLY PHOTOGRAPHS—Probably the earliest photographs that are known to exist are those of Fox Talbot, dating back certainly to 1839, and probably to 1835 ; and those of Robert Hunt, the author of " Researches on Light," about the year 1844, perhaps a year or two earlier.

EASEL—A wooden frame furnished with movable pegs or a sliding rack on which pictures are placed while being painted.

Eastman's—A frame on which to expose " bromide paper " for the purpose of enlargement. A long, narrow light-tight box is placed upon the top, to contain the sensitive paper in rolls, and which allows only as much of the paper as is necessary for the enlargement to be exposed at a time.

EAU DE JAVELLE—Can be made by mixing chloride of lime in thirty ounces of water, and adding to it four ounces of carbonate of potash dissolved in ten ounces of water, then boil and filter. It is sometimes used to reduce over-dense negatives, its action being due to the evolution of free chlorine, and it is also used to eliminate hypo. from the film, etc.

EBONITE OR VULCANITE—Is caoutchouc mixed with half its weight of sulphur and hardened by pressure and heating. It is hard, light and brittle, taking a high polish. Used extensively in manufacturing trays, revolving diaphragms, and instantaneous shutters, especially when lightness is a consideration.

ECLIPSE PHOTOGRAPHY—The scientific object in photographing a solar eclipse is to obtain as many photographs as possible of the varying stages of the phenomena, from the " moment of contact " with one limb of the sun till the moon's disk departs from the opposite limb, and thus place on record the appearances presented during "totality," for it is only while that lasts that the corona can be seen, because the moment the moon moves away from the central position, the light of the thinnest crescent of the sun is sufficiently intense to make that of the corona photographically invisible. It is from the different aspects presented by this corona that scientists hope to deduce some knowledge of the physical nature of the sun; but whatever may be the final conclusions arrived at, the terrible energy of action constantly taking place at the solar surface cannot but be made plain to us by the variety of forms which present themselves about the black disk of the interposed moon. Aside from these tongues and masses of light which are leaping above the sun's surface to heights ten times as great as the diameter of our earth, there is a halo also; but whether it is an illuminated atmosphere, or detached particles of solar matter in a state of incandescence, it is difficult to determine, though the solution of the problem would be an invaluable addition to the knowledge already gained of the nature of solar fires.

ECONOMY—At the best, photography to the amateur makes many demands upon his pocket. Many of these are legitimate, and he is fully repaid for the expenditure by the exercise he takes in the pure fresh air, the education of his eye to the better observance of the beautiful, the expansion of his mental and physical vigor, and the results of his labors. Still there is many a leak that a little consideration would close. First in the purchase of materials. Do not buy because they are cheap—the cheapest are generally the poorest—be they plates, paper or chemicals. Purchase the purest and best. Another leak, small as it may appear, soon counts up, and that is in preparing large quantities of solutions, when you have but a little amount of work to do. Most of these solutions, especially the developers, are unstable and soon deteriorate and have to be thrown aside. And so on, through the various manipulations, it is well to economize by cutting your cloth to the amount of work you have to do.

EDER'S NEW ACID HYPOSULPHITE BATH—One liter (thirty-four ounces) of hyposulphite of soda solution 1:4, to which is added fifty c. cm. (one ounce, six drachms, ten minims) of acid sulphite lye. This lye contains fifty per cent. concentrated and free sulphurous acid. This bath can be used continuously until it becomes brown, and is improved by the addition of more of the lye. Serviceable to prevent discoloration from any of the developers.

EDGING—Known as frilling; a defect of the plate from various causes. It will be treated under the head of Frilling, which see.

EDUCATIONAL VALUE OF PHOTOGRAPHY—The notable increase in the power of observation, which is so effectively stimulated by the use of the camera, extends not only over landscape and general subjects, but also over that most artistic of all subjects—the human model. A pleasing face or graceful figure is photographed, and the result is disappointment, because the beauty of the face due to color or complexion, or the grace of form due much to the charm of motion or position, is lost in a great measure in the camera, which the eye of the amateur failed to perceive, and he finds the clear-cut features and symmetry of proportion have a higher art value than he before appreciated. With the newly acquired ability to see comes also an increased sense of limitations to be set upon what is seen, and the knowledge of what to omit is found to be second only to that of what to use. Beginners are apt to be impressed with the importance of getting as much as possible on the plate, regardless of the effect upon the picture; but as his education in the art progresses and the difference between quality and quantity is better understood, he finds that a judicious application of the trimmer improves his picture; he also endeavors in the composition of the picture in the camera to so manage it as to make it possible to avoid the loss of desirable points in the attempt to remove objectionable ones. The fascination which photography possesses and the growing enthusiasm over the exercise of its powers are readily understood when its educational influence is also comprehended. The busy man, absorbed in the daily routine of business, finds that the camera has placed in his hands the means of cultivating and developing the artistic side of his nature to an extent otherwise only possible by means of long preliminary study and training.

EFFECTS OF LIGHT—Let the light be ever so perfectly arranged, it must of necessity vary with the season or the day, and, still more, different models require different arrangement of light and shade. The subject is one deserving the deepest study, and those who know most will seek better acquaintance still with its subtle gradations. This rendering of light within light and shadow within shadow is peculiarly the province of photography, and there is no branch of the art that affords more scope for constant study. It is the most difficult part of the art to learn, for no absolute rule or exact formulæ can be laid down. It is well that it is so, for as each one studies to light his picture artistically, so is he certain to receive his immediate reward by the superior results he will produce. Artistic excellence is only secured by a study of the conditions of light and shade.

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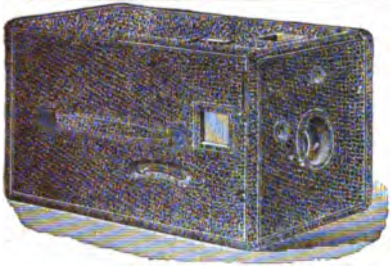

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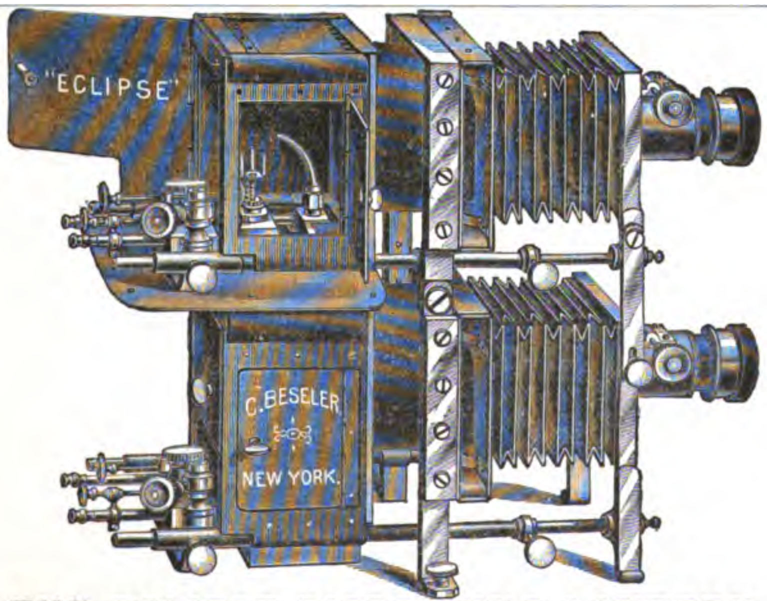

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[This department is for the benefit of SUBSCRIBERS who have photographic material, apparatus or books which they wish to exchange, and such wants will be inserted free of charge. The number of insertions given will depend upon the number of exchanges received each month. Subscribers will please notify us when articles have been exchanged or sold.]

For Sale.—5x8 Anthony Victor Camera, Crown R. R. lens, and complete outfit. W. M. Ostrander, 212 Wyoming Avenue, Pittston, Pa.

For Sale.—A No. 1 Gundlach 4 x 5 Rapid Rectigraphic Lens, 6¼ inches equivalent focus, with set of stops, specially made for hand cameras, good as new, price $14.00. Charles Lurcott, 361 Broadway, New York.

For Sale.—A leather-covered Hawk-Eye Camera, Blair Lens, six double film carriers, folding lamp, developing outfit, etc., in complete order; cost $43; price $25. cash. Apply to W. Anderson, Youth's Companion Office, 41 Temple Place, Boston.

For Sale or Exchange.—A Finder; an upright Microscope; 2 extra objectives in case; a Taylor tripod; a 5 x 8 press for blue or black prints; 1 tin painted camera and 6-holder case; 1 ruby globe lamp; 1 fixing dish, 6½ x 8½ plate; 1 nickel-plated pyro-scales; 1 feather-weight double holder, 6½x8½ plate; 1 pair scales and weights; 1 zinc settling-filtering tank, 10 gal.; 1 coal oil stove; 1 portable dark or developing room, about 2½x5½x6½ feet, on castors. I want 3½x4¼ Anthony's Bicycle Camera. or 5x7 Montauk Detective Camera. Will receive or pay difference. J. Siler, 1006 S. Seventh street, St. Louis, Mo.

For Sale.—A stationary 15-inch Acme Burnisher, in excellent condition, for $25. George Mead, 361 Broadway, New York.

For Sale.—Bausch & Lomb diaphragm shutter, 6½x8½; $10, if taken quick. Also periscopic lens, 15-inch focus, $3; Hawk-Eye Camera, in good working order, $10. J. E. Davison, 12 Ashley street, Central Falls, R. I.

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For Sale.—Rare chance—for $35.00 a 6½x8½ Bausch & Lomb Rect. Lens good as new, and diaphragm shutter, 90 Pattern, in perfect condition. Address, E. F. W., Box 142, Putnam, Conn.

For Sale or Exchange.—A No. 7 B Voigtlander Lens, in perfect order; cost $160, will sell for $80; and a Semmindinger S. S. Mahogany Camera in good order; cost $55, will sell for $20; and a 11x14 Wing Camera stand; cost $25, sell for $10. Or will sell all together for $100 cash, or exchange for a good 4x5 Detective Camera as part pay. Address Camera, Box 66, Elmwood, Mass.

For Sale.—6½x8½ Blair Reversible Back Camera, Gray's Periscope Lens, pneumatic shutter, four plate-holders, kits, tripod, cloth and carrying case. Good as new; only used on two dozen plates. Cost $70; will sell for $40. W. A. Weaver, Emmetsburgh, Ia.

For Sale.—Book on Photo-Engraving, Photo-Etching, etc , by W. T. Wilkinson, and revised by E. L. Wilson; last edition and new, $2.50. W. J. Hussey, Mt. Pleasant, Ohio.

Bargain.—Bausch & Lomb 6½x8½ Rapid Universal Lens, fitted with Bausch & Lomb new model (91) shutter; cost $58.00, will sell for $46.00; used but little; all right and perfect in every way. M. D. Fletcher, Springfield, Mass.

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For Sale.—A No. 1 Kodak, as good as new. B. E. Grant, Box 534, Waterbury, Conn.

For Sale or Exchange.—Will sell the following articles for cash named or make terms to exchange for good 6½x8½ Wide-angle Lens: One 6½x8½ Double Swing Camera, Rochester Optical Co.'s Universal, with canvas case and two plate-holders; also has a roll-holder 6½x8½, model '89, and a fine fresh roll of transparent films, 36-6½x8½ exposures. Guarantee the above to be in first-class condition, with even very little sign of wear. Cost when new, in total, $66.50. Will sell for $45.00. A new 5x7 Kodak, loaded as when bought; in perfect condition. Cost $60.00, will sell for $40.00. An 8-inch Rotary, swing firepan Entrekin Burnisher, with turn-back roll; has two rollers, one of them perfectly new, and has an Acme gas-heater and portable gas-stove. Whole cost, when new, $15.00; will sell for $9.00. Correspondence solicited. Wm. C. Patterson, Jr., Lake View and Sixth streets, Jamestown, N. Y.

Wanted. — 5x8 and 8x10 Anthony Duplex Novelette, with extra holders; must be new, or nearly new, and in good order; also 5x8 wide-angle lens. F. S Balster, Ouray, Colo.

For Sale or Exchange.— A fine ¼ size Voigtlander lens, R. & P.; cost, new, $72.00. Would like either B flat cornet, clarionet or Winchester rifle. Address, S. E. Brune, Eudora, Kan.

For Sale.— A 4x5 Blair Camera, six double plate-holders and one printing-frame for $15.00. Cora G. Lombard, 167 E. Wabash avenue, Winona, Minn.

For Sale.—6½x8½ Universal box S. S. Tripod. Rochester 6½x8½ Lens (double), case and all complete, good as new, $40. W. C. Carland, 558 Broadway, Albany, N. Y.

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For Sale or Exchange.—No. 2 Kodak 5x7 R. O.; Universal Camera, case, tripod and 6 holders, good condition. One 7x9 French R. Symmetrical Lens, one Borlunke 5x7 R. R. Lens, with or without Bausch and Lomb shutter. One 4x5 Lavernne R. R. Lens. *Wanted,* 6½x8½ and 3¼x4¼ or 4x5 Compact Camera and Dallmeyer R. R. Lens for same. Address "B," Room 34, 75 E. Madison street, Chicago, Ill.

For Sale.—An 8x10 Canvas Carrying Case, quite new; with three divisions and place for Tripod. Cash, $3.00. Horace S. L. Verley, 175 River St., Hoboken, N. J.

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Exchange.—A 5x8 Camera, with complete outfit, for a Double-barreled Breech-loading Shot-Gun. M. Limprecht, New Rochelle, N. Y.

For Sale.—Lens, Steinheil Antiplanetic, series 2, No. 4; 9½ inch focus covering plate; view, 6½x8½. Also, Low Compound Shutter. Cost, $54.00; will sell for $36.00 cash. All right and in good condition. F. E. Fairbanks, 11 Day street, Fitchburg, Mass.

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For Sale.—One 5x8 Waterbury Camera with tripod carrying case, cloth and plate-holders. Good as new. Cost $20.00; will sell for $10.00. A. H. Waite, 52 First Ave., Cedar Rapids, Iowa.

For Sale.—Back numbers of this magazine. A No. 1 condition. P. O. Box 1006, Medford, Mass.

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A Monthly Review of Amateur Photography.

VOL. IV. NEW YORK, JUNE, 1892. No. 6.

EDITORS:

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Landscape Photography with Orthochromatic Films.

BY CHARLES L. MITCHELL, M.D.

DURING the past few years, in a rather extended experience abroad, I have made extensive use of orthochromatized emulsions coated on celluloid films; a few notes, therefore, concerning the practical details connected with their use may be of value. It may be stated in advance that the deductions given in this paper are based upon some eleven hundred exposures made in Southern Germany, Switzerland and Italy during the Summer of 1890, and in Norway during the Summer of 1891. These were made under the most varying conditions of light, and embraced every variety of landscape usually attempted by the average photographer. No "snap-work" or instantaneous exposures were made on orthochromatic films.

It is hardly necessary at this late day for me to go into any lengthy dissertation upon the subject of orthochromatism, or to attempt to explain at length what is meant by the term, for the value of plates prepared in this manner is now well recognized and the whole theory has been repeatedly and in detail described at different times in numerous photographic publications. Suffice it to say that a plate or film coated with an orthochromatized emulsion displays certain peculiar characteristics in regard to light and to the various component colored rays of the spectrum. An ordinary photographic emulsion is always actively affected by the blue rays of the spectrum, while it is almost equally indifferent and insensitive to the action of the yellow, orange, red and green rays. The consequence is that in photographing a landscape, blue appears as white, while the greens, reds and yellows, although to the eye markedly different in color-tone or gradation, produce practically the same effect upon the photographic emulsion, and are all represented in the finished positive as blacks of about the same color-gradation. The orthochromatic emulsion, on the contrary, while less sensitive to blue as the plain emulsion, is more sensitive to the yellows, greens and reds, and in much more correct relation to their color intensity. Color values are, therefore, more correctly rendered, and this rendition is made even more perfect by the interposition of a yellow screen between, before or behind the lens combination used. This acts as a light strainer or filter, so to speak, filtering out and holding back the blue and violet rays of the spectrum, and allowing the yellows, greens and reds, in which the luminous vibrations are slower and of less intensity, an opportunity to act fully upon the emulsion. It may also be noted that with an ordinary emulsion the colors blue and white affect it equally, so that, for example, in photographing a lady dressed in blue and white, the finished positive would represent her as in white entirely. In landscape photography this is a great drawback, for when, for instance, making an exposure upon a snow-capped mountain standing out against a blue sky, the two act so equally upon the emulsion that in the positive it is often almost impossible to note where the line of demarcation exists between the two, the whole being rendered as an unmeaning mass of white, instead of showing the brilliant and clear contrast between the two that there is in nature. With an orthochromatized emulsion, however, the result is quite different—blue appears darker than white, as, in fact, it does naturally to the eye ; and this effect is brought out even more prominently by the employment of the yellow color-screen. This holds back the action of the blue rays, and also gives the darker tints in the nearer foreground the opportunity to properly impress the plate.

Now, with the above points clearly understood, we can appreciate why the orthochromatic plate or film should be so useful in landscape photography.

FIRST. The different shades of green in grass and foliage, ranging often from a light yellowish green to a shade so dark as to be almost black, all have their proper effect upon the plate, and the resulting positive shows them with their proper color values as expressed in black and white. There is, hence, much brilliancy and gradation of tone obtained.

SECOND. As the orthochromatic emulsion differentiates between blue and white, delicate cloud effects are obtained which would be utterly lost with an ordinary emulsion. I have often been asked how I obtained the realistic cloud effects which I have shown in some of my Swiss photographs and lantern-slides, and, in fact, have sometimes been asked if they were not "printed in;" but, thanks to orthochromatic films, no such procedure has been necessary, for the clouds are "right there" in the original negative.

THIRD. In large and extended landscapes involving considerable distances, an orthochromatic emulsion used with a color-screen is almost an absolute necessity. Otherwise the blue rays from the more distant portions of the landscape would utterly "burn out" their particular part of the plate before the foreground had been fully exposed. All sorts of devices have been suggested to overcome this difficulty—sky shades, shutters exposing from the bottom upward, etc., etc., but none have met with sufficient success to warrant their adoption. With a good orthochromatic plate of moderate rapidity, or an orthochromatic celluloid film, which is even better, owing to absence of halation, and a yellow color-screen of moderate depth of color, all these difficulties are avoided, and a satisfactory result can nearly always be obtained. I have grown to depend upon this method of procedure so much that I think nothing of attempting a landscape where a distance of some forty or fifty miles is involved, and can usually obtain in my picture as much, if not more, than I can see with my eye. I can obtain, too, a picture with harmonious gradation, a fully exposed and satisfactory foreground, full of light and shade and plenty of detail, while the middle distance and extreme distance show both detail, atmospheric effect and good tone-gradation. Furthermore, if there are clouds, I am *sure* to get them, and, excepting there be sufficient wind to cause their outlines to be blurred by movement during a long exposure, the result leaves nothing to be desired. I have one negative, a view taken from the top of the Furca Pass, in Switzerland, in which, while the foreground is well exposed and satisfactory, the Alps of the Monte Rosa and Mont Blanc groups are clearly visible, although nearly a hundred miles distant. It would be wholly impossible to obtain such a result with an ordinary emulsion.

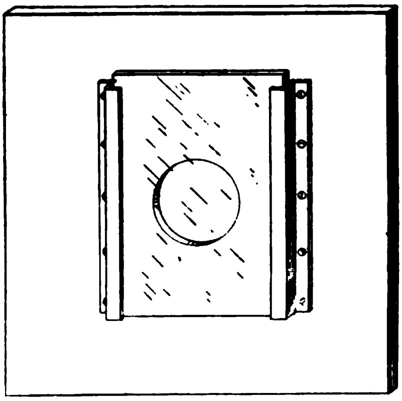
FOURTH. Effects of sky and water, reflections of clouds in the water, snow-capped peaks and glaciers standing out against a blue sky, Autumn changes of foliage, etc., etc., with an orthochromatic emulsion, are rendered with a fidelity impossible to obtain with the ordinary plate.

I have thus far used the term plate in a general sense, meaning either glass or celluloid. While there is no doubt that for perfection of image and freedom from defect the glass support is as yet the best, there is no doubt, too, that there is a certain amount of halation, accompanying the use of glass, which is often a serious objection to its use, particularly in landscape work. The celluloid film, however, owing to its thinness, is almost free from this objection, and could it be obtained as free from defects as is the glass now in use by our best dry-plate makers, nothing better for photographic purposes could be desired, for its small weight, when compared with glass, gives it an immense advantage, especially when on a lengthened tour. Unfortunately, however, the celluloid of to-day is not yet as perfect as glass, and there is still room for considerable improvements in the methods of manufacture, although the character of the celluloid film now supplied is far superior to those of a few years back, when the large majority of negatives made on them were as full of spots as a coach dog. Although I have many very good negatives made on celluloid films, there is a considerable percentage where the defects of the celluloid are such as to preclude the negative from being used for purposes of enlargement. However, from samples which I have examined from time to time, I feel satisfied that the manufacture of celluloid sheets for photographic purposes is rapidly progressing towards perfection, and I do not think we shall have to wait very many years before it will be as cheap and as perfect as glass. Most of the coated celluloid films in cut sheets furnished within the past two years have been with a mat surface on one side and a smooth surface on the other, the emulsion being coated on one or the other side according to the preference of the manufacturer. Those which I have used were coated on the smooth side. The mat-surface back is supposed to diminish the amount of halation, and also afforded a good and convenient ground for retouching. There is and has been for some time past a question in my mind, however, as to whether the mat or ground-glass surface does not to a certain extent interfere with the free transmission of light through the negative when printing, and so tend to diminish the brilliancy of the print, and therefore whether light would not pass more rapidly and actively through the clear glass of the shadows in a glass negative, and hence produce more dense and brilliant blacks. This applies more especially to plain silver and platinotype prints, where the tendency of the process is always to reduce contrast. I have heretofore used the mat-surface celluloid film exclusively. I think that with my next photographic expedition I shall make extended trial of celluloid without the mat surface, and which, being quite clear, is more of the character of a glass plate. I have made several experiments lately in comparing a smooth, clear celluloid film with one having a mat surface, the test being an exposure in an ordinary room, the lens being pointed directly at a well-lighted window and the amount of halation resulting on each plate carefully compared. While my experiments have not been extended enough to warrant positive conclusions being drawn, the result has so far been quite sufficient to satisfy me there is no material advantage in the use of the mat-surface film, and in other respects it is not as perfect as the smooth-surface film, owing to its greater liability to show scratches.

And now for a few words regarding films and exposures. Up to this time I have used mainly the orthochromatic celluloid films prepared by John Carbutt, and his emulsions have always given me such satisfactory results that I can unhesitatingly recommend them. For landscape work I prefer a rather slow emulsion — not slower than 23 or faster than 25 (Carbutt sensitometer). But there is one vital principle never to be forgotten in the exposure of *all* orthochromatic emulsions. They must *always* be fully timed. An under-exposed orthochromatic plate or film is much more harsh and lacking in detail than an ordinary plate of the same speed would be when exposed under precisely similar circumstances. On the other hand, the orthochromatic plate, and even more so the film, will bear an amount of overtiming which would be simply ruinous to the ordinary plate. The matter of timing an exposure is one involving so many factors, all of which constantly vary, that it is almost impossible to lay down any positive dictum. But my own experience has been that with a film of 23 sensitometer (Carbutt's) and a good, rapid rectilinear lens at f. 32, the exposure of 5 seconds on an ordinary sun-lighted landscape, with no special distance or deep shadows, would generally give me satisfactory results. Where a color-screen is used this exposure should be increased from five to twelve times, depending largely upon the depth of shadows in the subject.

The color-screen for landscape work should be of a light canary-yellow, and special care should be taken not to have it of too deep a tint, otherwise it will cut out too much of the blue rays, and a harsh negative, lacking in tone-gradation, will result, while it will be necessary even then to make a much longer exposure than mentioned above. I have always prepared my own color-screens, using the following method. It is first necessary to procure glass perfectly flat and free from all stria or bubbles, or when placed before or behind the lens, its unequal density will refract the rays of light and thus distort the image. This is a *sine qua non.* Thin plate glass that is used for the purpose of making color-cells, and animalculæ tanks, for demonstration with the gas microscope, is the best article for the purpose. After being cut in squares of the size desired, a square should be flowed on one side with a solution of a yellow aniline dye in celluloid varnish, using from 5 to 8 grains of the dye to the fluid ounce of varnish, according to the depth of color desired. I am in the habit of using a dye called "golden yellow," which is freely soluble in alcohol. The celluloid varnish is known in trade by a number of different fictitious names, such as "enameline," etc., etc. It is simply a solution of celluloid in mixtures of amyl acetate, petroleum benzin, alcohol and ether, mixed in varying proportions. It can be easily prepared on a small scale by cleaning off the emulsion from a spoiled celluloid film, cutting the film up in small strips, and dissolving these in a bottle in a mixture of one part (by measure) of amyl acetate, one part petroleum benzin, three parts alcohol and three parts of ether. The celluloid swells up and dissolves rather slowly, hence the bottle containing the mixture should be well shaken at intervals for several days. When the celluloid is all dissolved the liquid should be filtered through a little absorbent cotton to remove any loose flecks of dirt. This varnish gives a tough film, clear and free from transverse stria, and is an excellent material for varnishing glass negatives or positives, being perfectly waterproof. To resume: The glass square, after having been flowed with the colored varnish, in the same manner as when coating a plate with collodion, is allowed to "set" for a few moments, and then placed aside on a flat surface until the varnish is perfectly hard and dry. Care must be taken to keep it covered while drying, so as to avoid dirt and dust settling on it. The coated plate is now placed on a level surface, film upward, and sufficient pure Canada balsam (white and free from dirt) poured on the plate to make a pool in the middle of the plate about one-fourth of its area. A fresh, clean glass square of the same size is next taken and gently lowered on the balsam and plate in the same manner that a cover-glass is placed over a microscopic object, and then a gentle and even pressure exerted until all air is forced out, and the two glass surfaces are cemented together with the balsam and are in uniform contact. The cemented plates are now laid aside on a level surface and allowed to remain several weeks undisturbed until the balsam has thoroughly hardened. Then the edges are cleaned off, the exuded balsam being removed with a little benzin or benzole, and the edges bound with some strips of lantern-slide paper. This color-screen can be placed either before or behind the lens. If before, a special hood must be made to hold it. I therefore prefer to use it behind the lens, on the inside of the lens board, where it can be placed or removed in a few seconds. This can easily be arranged by having two small brass or wooden cleats made of this shape.

The edge is fastened down on the inside face of the lens board by means of a few small screws, and the color-screen will then slide easily up and down between the cleats. The cut below will illustrate this even better.



A small sprig-nail placed at the bottom acts as a stop and prevents the color-screen from slipping down and out.

One more point may be noted in regard to exposure. The data previously given were all based upon a clear, bright, sunshiny day being taken. But supposing the day to be overcast and cloudy. Under such circumstances the exposure on orthochromatic plates must be greatly lengthened, much more so than for ordinary plates under the same circumstances. For instance, if I gave twice or three times as much exposure on an overcast day (using an ordinary plate) as I would on a clear day, for an orthochromatic plate, I should give from four to eight times as long, and if I did not do so, I should have an undertimed plate. Most of my failures with orthochromatic films have been from this cause—undertiming on cloudy days. There seems, under these circumstances, to be an absence of certain light rays which affect quickly the orthochromatic emulsion. A very much longer exposure must be made to secure good results. I have frequently, after I discovered this, after making an exposure, made a duplicate in which I doubled the exposure, and almost invariably the longer-timed negative came out the best.

And now a few words in conclusion regarding development. Pyro, eikonogen, hydroquinone all give good results, depending upon the predilection and skill of the operator. I am inclined to favor the mixed developer of hydroquinone and eikonogen. With it I can secure fine detail and get also plenty of density when desired, and I think the combination particularly suited to orthochromatic emulsions.

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Multiples.

BY MRS. J. C. KENDALL.

IN producing multiple exposures on the same plate I use a 6 x 10 foreground and a 6 x 10 background of black felt. I focus all the different parts of which the picture is to be composed, one after the other, before making any exposures, and mark out with black pins where the sitter in each different position is to be placed. It is very important in planning the picture to allow space enough for each position and mark the floor in such a way that the interfering of one part of the picture with another may be avoided. After the focus is adjusted, a dark-colored chalk-mark may be drawn around the sitter, which will be a guard against double exposure. Observe an instance of this accident in the picture "Riding to Banbury Cross," where at the last exposure a fold of the child's dress laps over the dress of the first exposure. After numerous experiments the results show that the outside exposures must be made first, and the central figure is brought in last. If that point is not observed the central figure will be more prominent than the rest.

After each exposure all chairs and accessories must be removed before the next position is taken, so as to leave nothing but the black felt in the space where the previous exposures have occurred.

In the picture "Riding to Banbury Cross," the outside exposures were made first; then the barrel was brought and the inside picture taken first, then a black cover was put over the front of the barrel and the child was placed on the top of it, where the fourth exposure was made.

This picture was taken on a barn floor, facing south, just inside of the doors, thrown widely open (these are old-fashioned barn-doors, ten feet high or more), and the sun had moved far enough away so as not to shine directly in. The exposures were made with fastest motion of the slow instantaneous movement of a Triplex shutter, what is sometimes called a 50th of a second exposure, with an 8 x 10 Euryscope lens, second to largest diaphragm of shutter, and a Seed plate 26. Development should be carried far enough to secure good printing quality, but the plate should be removed from developer before much veiling appears.

For a picture of a little different nature a barrel is made fast to the floor parallel to the felt screen. A little child may be taken emerging from both ends, and as there will be considerable space between the two heads, he may be taken in two additional attitudes; he may sit on one end of the barrel, and again he may lean over the remaining space, looking up into the face of the little fellow in the third position. This barrel must be painted a dark color and must be less actinic than the child's stockings, and the barrel should be of small size, if possible.

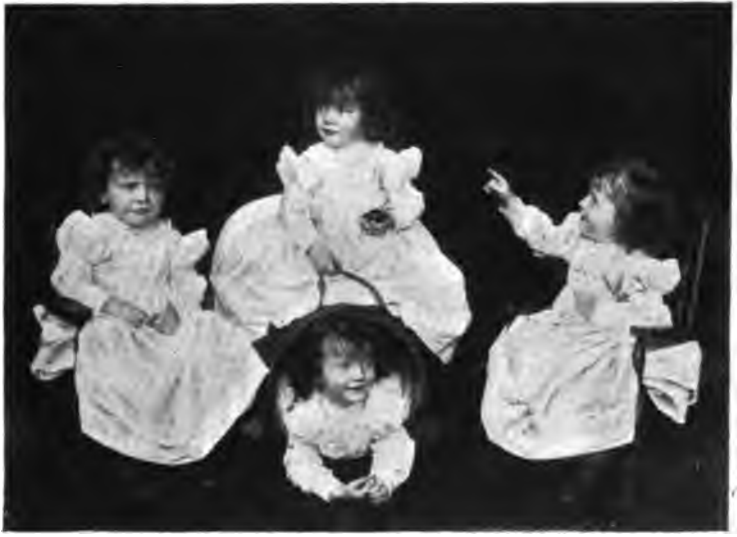
A very young child just able to sit on the floor can be focused in three or more different positions with toys, and a variety of expressions may be caught, black pins indicating how far the folds of the dress or the toys may be allowed to stray on each position, so as not to have them interfere with previous or subsequent exposures.

A boy or a girl may have a book in the first position, in the next position facing the first, he or she may *ask* for the book, and in the third position sit in comfort and read.

A boy may have a desk and dress up as teacher, and the same boy may act as scholars with varied expressions.

A girl may be taken playing house with her dolls in different actions, or she may in one part of the picture have a toy wash-tub and wringer. On the next position she may have a small kerosene-stove surmounted with a kettle filled with clothes (use cotton batting for soap-suds), and press them down with a wooden handle. At another position a string is fastened across the space, and she is taken "hanging up the clothes." Place a small basket of clothes by the child and get her to reach up to the line, fastening a clothes-pin into a small article hung up.

On another picture a little fellow may have a toy saw-horse and a saw in one position. Saw into the wood far enough so the saw will hold until the child can be caught in trying to make it go. (Interest the child into taking a position like a man, holding on to the wood and not letting it stir; place his right hand on the saw and make the exposure at once.) In the next position he can have a chopping-block surrounded with chips (have the hatchet sunk deeply enough so you can make the exposure while he is trying to remove it); in another part of the picture he may pick up chips alone, or with the assistance of another child. This particular picture is apt to look interesting, but it must be taken before the child has had a chance to become acquainted with his accessories. It is a neat-looking picture, too; but in order to obtain it a good many splintery chips, and sawdust have to be carried into the scene, and must be cleared away in the interval of exposure.


RIDING TO BANBURY CROSS.

Another picture that is pleasing and may be obtained without difficulty is of a boy washing his feet in a whitewash bowl on one side of the picture, and from the other side he hands himself the towels. Have a white soap dish on the floor also, with a cake of soap. This picture may be called "Waiting on himself." Those who are fortunate enough to have a skylight, and dark-colored stumps and rocky scenery will see how they can, by using a black background, and by fastening the scenery to the floor, take a child climbing over the rock from one side and playing peek-a-boo from the other. A double or triple exposure on the rock will do no harm if it is secured from moving; or make a picture of a hunting scene near the rock and have the boy appear in different telling positions.

Where nothing but a black screen is used, each position might be focused separately, as, for instance, in the picture of the teacher and scholars. The teacher might be taken nearer and made to appear larger than the scholars, but in taking young children it is better to focus all the positions first. After the first position is focused the rack must not be disturbed for the next positions, but the sitter is moved back or forth as may be necessary to bring all subsequent positions in focus with the first. There will be no need of reinserting the slide of the plate-holder until all the positions have been taken.

After focusing, the child can take a little change and rest, and afterward the exposures can be made in very rapid succession, as the pins or other markings indicate exactly where the child must be placed.

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Astronomical Photography.

[Read before the Hiawatha Camera Club of Minneapolis, April 19, 1892, by H. C. Wilson, Assistant Astronomer of Goodsell Observatory, Carleton College, Northfield, Minn.]

THE history of astronomical photography begins almost with that of photography itself. When the scientist Arago, on August 19th, 1839, announced to the French Academy of Sciences the great invention of Daguerre, he coupled with his announcement proposals to use the new art in obtaining pictures of the moon and of the solar spectrum. Arago characterized the invention as "a new instrument for the study of nature," the manifold uses of which must baffle, and would assuredly surpass, prediction. "In such matters as this," said he, "we must count most upon the unforeseen." And, indeed, the unforeseen has come to pass. Arago, with all his willingness to allow incalculable possibilities, would doubtless have been staggered by a forecast of the work now actually being done.

The first attempts, however, at celestial photography proved disappointing failures. At Arago's suggestion, Daguerre exposed one of his sensitive plates to the rays of the moon, but with no result. In 1840 Dr. J. W. Draper, of New York, obtained a daguerreotype of the moon — very imperfect, indeed, but prophetic of future success with proper appliances. He also, within a few years, obtained the first pictures of the solar spectrum.

In 1850 the first star photographs and also the first good photographs of the moon were made by Professor G. P. Bond at Harvard College Observatory. The exhibition of one of these lunar photographs at the London Exhibition in 1851 excited much interest, and was the means of stimulating Mr. Warren De la Rue, of London, to take up the study of this subject. He constructed for himself a thirteen-inch reflecting telescope, and using the wet-collodion process, which had just then been discovered, obtained much better pictures of the moon than those by Bond.

In 1860 the first successful attempt was made to photograph the solar prominences or colored flames around the edge of the sun at the time of a total eclipse, by Mr. De la Rue and Father Secchi. These photographs settled the question whether the prominences were appendages of the sun or of the moon, by showing the advance of the moon over them.

In 1864 a great step in advance was made by Mr. Rutherfurd, of New York, who constructed a refracting telescope with an object-glass of eleven-inch aperture, designed expressly for photographic work. Let me say in explanation here that the rays of light which make the impression upon the sensitive plate are not the same as those which impress the retina of the eye. They are, in fact, most of them, invisible to the eye. In the construction of the ordinary visual telescope the object-glass is so made as to bring to the same focus all the rays which are conspicuous to the eye, allowing all the others to go wild. The chemical rays of light, which are mostly invisible, do not come to focus at any one point, so that a perfect telescope for visual purposes will be a very poor photographic one; and, *vice versa,* if the chemical rays are brought to a single focus the visual rays must go wild, so that a photographic telescope is worthless for visual purposes. Mr. Rutherfurd set the example of deliberately constructing a telescope totally unserviceable to the eye. With this telescope he obtained photographs of the sun, moon and star-clusters, some of which have not been surpassed until within the last two or three years.

The reflecting telescope is not subject to the same difficulties in respect to focus as the refractor; all rays of light are brought to the same focus in the reflector. But there are other drawbacks to the use of this kind of telescope, which have led most astronomers to prefer refractors. These difficulties have largely been overcome in the last few years, so that some of the best photographic work is now being done with large reflectors. The largest now in use is one with a five-foot mirror, recently completed by Dr. Common in England, and with which he is said to have obtained some excellent photographs of the planet Jupiter enlarged to one inch in diameter.

Mr. Rutherfurd's work with his photographic refractor, and that of Dr. Henry Draper, of New York, with a fifteen-inch silver-on-glass reflector, at about the same time, may be regarded as the culmination of the art of celestial photography in its second or wet-collodion stage. The pictures, though excellent, did not compare with the views to be had through an ordinary four or five-inch telescope. The plates were not sensitive enough for the very short exposures necessary to give sharp pictures of the moon and planets; on the other hand, the necessity of their being "wet" precluded the possibility of the long exposures necessary to impress upon the plate the images of very faint stars and nebulæ.

Little more was done in these lines for the next twenty years. The sun has, however, been photographed regularly at three or four different stations on the earth, so that we have an almost daily photographic record of the appearance of the sun since 1870.

The introduction of the dry-plate process in 1871, and the subsequent rapid increase in the sensitiveness of the plates produced, have led to a wonderful development of the art of photography as applied to all branches of physical science, and especially to astronomy. The increased sensitiveness of the plates permits the exposures on bright objects to be shortened to such an extent that atmospheric disturbances produce but little effect in blurring the images—a difficulty which could not be avoided before. Photographs of the moon can be taken in less than one-half second, and the brighter planets in an almost equally short time. It is possible to photograph the sun in $\frac{1}{100000}$ of a second. Indeed, with the plates now commonly on the market, it is difficult to make the exposure short enough.

On the other hand, with dry-plates the exposure on faint objects can be prolonged indefinitely with ever-increasing effect. Impressions on the sensitive plate are cumulative as well as permanent, those upon the living retina are neither. Impressions upon the human eye last but a small fraction of a second; after that length of time there is continual effacement and renewal. If this were not so we could not so quickly turn our view from one object to another. Continued gazing at a faint star makes it no brighter to the sight. If we could lengthen the impression to one second, the sky would be almost ten times as bright as it is—*i. e.*, like the Milky Way, dimly luminous with minute stars. On the sensitive plate, however, the impression, once made, is permanent. The tiny ray of light from a distant star, which would make no impression on the eye, by its continued pulsations against the gelatine film, shakes apart one by one the molecules of the silver salts, until finally a perceptible image of the star is engraved. Thus it is that we are able to say that we can photograph that which is invisible.

It is possible, too, that there may be stars photographically bright which emit none of the visual rays, but whose light is wholly composed of the invisible rays at the ultra-violet end of the spectrum. We have no evidence of such as yet; certainly no conspicuous ones have been found on the photographs.

Dr. Huggins, in England, was the first to perceive the singular adaptation of the dry-plates to celestial research and to use them in his experiments on photographing stellar spectra; his advice and example were followed a few years later by Draper and Gould in America and by Common and Janssen in Europe. Other astronomers held aloof from the new methods, distrusting photography as a means of obtaining either perfect pictures or accurate measurements of the heavenly bodies.

In 1874 the transit of Venus was photographed at many places on the earth by expeditions sent out by the various governments. The total failure of most of these photographs to give accurate measures of the solar parallax added to the distrust in which photography was then held. The Americans, however, tried it again in 1882, and the results, recently published, of the measures of about 1,600 photographs prove conclusively that photography can be relied upon as a means of accurate measurement.

The decisive impulse toward the great astronomical undertaking of to-day came from the Cape of Good Hope. Dr. Gill, the Royal Astronomer, was one of the old school, devoted to accurate measurements with the meridian circle and the heliometer, little suspecting that in the camera an instrument was at hand more rapidly effective for the purposes of practical astronomy than the transit and heliometer. But in 1882 the splendid appearance of a great comet in the southern heavens challenged portrayal. Dr. Gill was not slow to make use of the means at hand, which were the 2½-inch camera and the experience of a local photographer, Mr. Aldis. Attaching the camera to the great equatorial, and using the latter as a guide to keep the image of the comet upon the same part of the sensitive plate, exposures of from a half hour to two hours and twenty minutes were made. The result was a series of pictures remarkable not only for the fidelity with which the comet was represented, but also for the accessory wealth of stars they displayed. The entire background was thickly strewn with them. Forty or fifty, down to the ninth magnitude, shone across the interposed film of the comet's tail. The exhibition of these photographs stirred up a great deal of interest in the subject of star-charting. They emphasized the advantages to be derived from the use of lenses of short focus and wide field, giving small bright images of tolerably extensive sky landscapes. Experiments were begun in many quarters. Dr. Gill began at once a photographic survey of the southern heavens to supplement the work already done in the north by the old methods by Argelander. Professor Pickering at Harvard College, and Espin and Roberts of England, took up lines of photographic research in which they have achieved eminent success.

At the Paris Observatory at this time were two brothers, Paul and Prosper Henry by name, working together, charting by the old methods the faint stars along the ecliptic, with the purpose of discovering asteroids, or small planets. In ten years they had constructed sixteen maps of the seventy-two required. At the place where the ecliptic crosses the Milky Way an almost insuperable difficulty met them. The stars were so numerous that it was almost impossible to chart them by eye and hand. A glance at Dr. Gill's comet-picture with its starry background suggested the way out of their difficulty, and at once they determined to give up the old method of charting by the eye and hand, and have recourse to photography. They set about the construction of a telescope on a novel plan—a twin telescope having two objectives, one adapted for chemical, the other for visual rays, inclosed in a single rectangular tube. The photographic objective is of thirteen inches aperture and eleven feet focus, its curves being computed so as to enable it to take in a wide area of the sky without sensible deformation of the images. The observer looks through the visual portion of the telescope at one of the brighter stars in the field of view, and keeps it constantly at the intersection of a pair of cross-threads, correcting by means of adjusting screws any irregularity of the movement of the driving clock.

With this apparatus during 1885 and 1886 many photographs were taken, surpassing in excellence anything ever seen before. Stars and nebulæ never seen were depicted on the plates. On one of them, covering an area of about four square degrees in the constellation of Cygnus, where 170 stars had previously been identified, some 5,000 were clearly imprinted. In the familiar group of the Pleiades, where the best map before made, the result of many years' labor, contained 671 stars, photographs taken by the Henrys supply the material for charting 1,421 stars, with a precision never reached by visual observations.

The significance of these results could not be mistaken. They pointed to a great task, no less than a complete photographic chart of the whole heavens. Dr. Gill proposed in 1886 an international congress of astronomers to consider the question. The congress met in Paris in April, 1887—fifty-five delegates of fifteen different nationalities. They agreed to undertake the task, and appointed committees to consider best methods of work and of preservation of plates, etc., while the instruments were being constructed.

At a meeting of the permanent committee last year, it was reported that seventeen observatories were ready to co-operate in the work; all the instruments had been finished and most of them had already taken experimental photographs. The sky has been divided into zones, and these zones apportioned to the different observatories in such a manner as to make the conditions of observing as nearly alike as possible. The telescopes are all essentially alike, the plates are to be of the same size, made by the same formula and developed in the same manner.

We have thus already begun the stupendous task of photographing on a large scale and in a short time the whole heavens. It will require over 10,000 plates to cover the sky, and each is to be done in duplicate. Allowing for failures, something over 25,000 plates will have to be exposed. The exposure is to be one hour for each. A second set of plates is to be made, with an exposure of only ten or fifteen minutes, for measurement of the places of the brighter stars and the construction of a catalogue. It is estimated that the catalogue will contain 2,000,000 stars, while the chart will show not less than 20,000,000, and possibly 50,000,000 or 60,000,000. The whole work of taking the plates ought to be finished within about five years.

While the preparations for this great chart have been going on, Professor Pickering, of Harvard College Observatory, has been making one of his own with an eight-inch telescope of different construction, and bids fair to have it all done before the others have fairly begun. At present a party of Harvard observers is in Peru making a survey of the southern heavens, to join on with that already finished in the north.

Mr. Isaac Roberts, in England, has within the last three years obtained some marvelously perfect pictures of the nebulæ and star-clusters with his twenty-inch reflector. Messrs. Barnard at Lick Observatory, Russell at Sydney, Australia, and Wolf at Heidelberg, have been doing some wonderful work with large portrait lenses and long exposures of from two to five hours. The last named has even exposed one plate thirteen hours, bringing to light unsuspected details as to the structure of the stellar universe.

Lastly I must mention the achievements of a young astronomer in Chicago, Mr. George E. Hale, director of the Kenwood Physical Observatory, who has during the past year discovered a method of photographing the colored prominences of the edge of the sun without an eclipse, of photographing them all around the edge of the sun at one exposure, and of photographing the white spots, called faculæ, on all parts of the solar disk, whereas they have hitherto been visible only near the edge.

The science is advancing so rapidly that it is difficult to keep pace with it. Each year, each month even, brings forth that which was unforeseen. That there are yet rich treasures in store for those who diligently search we can have no doubt.

(At the close of the lecture a large number of lantern-slides were exhibited, showing the work of different astronomers in celestial photography.)

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Photo-Mechanical Printing Processes.

[Abstract of an address by Prof. Charles F. Chandler, Ph.D., L.L.D., read before the Society of Amateur Photographers of New York, May 10th, 1892.]

PROF. CHANDLER prefaced his remarks by saying that those engaged in the practice of photo-mechanical work kept their secrets, if they had any, more from public scrutiny than those engaged in the general practice of photography. He had been in a great many establishments, but had never been permitted to see all the steps of the processes. The managers were generally very willing to show him most of the steps, but those he wanted to see particularly they declined ; but he had obtained considerable knowledge from his various visits to the different establishments, and purposed giving the results of his investigations to the members of the society. He said it was very difficult to classify the different processes, because they were capable of classification on several different peculiarities, such as (1) the material of which the printing surface is composed — gelatine, stone, zinc, copper, type-metal, etc.; (2) the material used for moulding the printing surface — gelatine, wax, plaster of Paris, etc.; (3) the method employed in producing the printing surface — casting, etching, electrotyping, etc.; (4) the character of the printing surface itself — high relief, low relief, *intaglio*, half-tone, etc. The principle of the photo-mechanical process was the use of photography to make a surface for pigment-printing usually in ink. He considered the following classification about as satisfactory as any :

CLASSIFICATION OF PHOTO-MECHANICAL PROCESSES.

I. Those in which the picture is moulded in gelatine colored by a pigment. 1. Woodburytype or photoglyph.

II. Those in which the picture is printed in printing-ink.

A. Collotype processes (Lichtdruck, phototype), in which the picture is printed from a gelatine surface. 1, albertype; 2, artotype; 3, indotint or autoglyph; 4, heliotype; 5, leimtype.

B. Processes in which the picture is printed from stone. 1, photolithograph; 2, photo-caustic; 3, ink photo.

C. Processes in which the picture is printed from a metallic relief surface — "typographic or block-printing." *a.* Swelled gelatine processes. 1, photo-electrotype (copper); 2, photo-engraving (type-metal). *b.* Photo-etchings. 1, photo-zincograph (by transfer); 2, zincotype (direct photo on plate with albumen or bitumen); 3, typogravure (copper); 4, chromo-typogravure (several plates).

D. Processes in which the picture is printed from an *intaglio* copper plate. 1, photo-gravure; 2, photo-aquatint; 3, Goupil-gravure.

In producing plates for printing it is necessary to reverse the position of the picture, which is done in two ways. One method is to place a mirror in front of the lens of the camera and photograph the reflected image in the mirror of the original to be produced. Another way is to use a very thin film of collodion, and after the negative is made and dried, to strip the film from the glass support. He exhibited a very thin film of this kind. Generally, to give the films strength, gelatine is poured on before stripping. The films can then be used either side in the printing frame. He referred to the ordinary stripping dry-plates, now supplied by some manufacturers, which can be used advantageously. Another advantage of using the films was that they were very easily preserved and could be packed in a very small space. Many photo-mechanical processes depend on the use of gelatine and some bichromate — either bichromate of potash or bichromate of ammonia. The compound is very sensitive to light. The chromate oxidizes the gelatine under the action of light and deprives it of two properties, solubility in warm water, and the property of absorbing cold water and swelling. Gelatine thus acted upon by light through a negative is no longer acted upon at all by water; it is not only absolutely insoluble, but it does not absorb water, does not get wet even. This feature is found in nine-tenths of all the photo-mechanical processes.

The first photo-mechanical process invented was that of Niepce; it was an asphaltum process. Asphaltum is soluble in essential oils. A solution is flowed over a metallic plate and dried. The plate is then exposed in the camera, and where the light strikes, the film immediately becomes insoluble. After exposure the plate is flowed over with an essential oil — usually oil of lavender — which dissolves out the portions not acted upon by light and leaves an asphaltum reverse. To the metallic plate, protected by the asphaltum picture in reverse, acid is applied, and an etched plate results, from which prints are made in printer's ink, as they are made from plates etched after drawings by hand. He then went on to explain the Woodbury process, which depends on bichromatizing the gelatine plate and exposing it to light behind the negative, and then washing away the unacted-upon-by-light portions of the film. This leaves the raised picture in gelatine very similar to the carbon print. The raised gelatine film is then placed in the hydraulic press, and under a pressure of three tons to the square inch, is forced into a sheet of lead which makes a mould. The hard gelatine acts on the lead as if it were a steel die. As many moulds as may be desired can be produced in this way. The picture is then printed, or rather moulded, from the lead plate as follows: A warm solution of gelatine and pigment of any color that may be desired is spread over the plate, and the sheet of paper laid on the plate, then run through the press. The pigment adheres to the paper, and the latter is pulled off, thus forming the picture, which has a raised appearance. He showed a large number of films and pictures made by the Woodbury process, showing the peculiar raised surface. He said a company was organized some time ago in Philadelphia to practice the Woodbury process, but, for some reason or other, they did not succeed, claiming that the climate here was too dry.

The next group of processes which he described was called the collotype, or in German it was called the "licht-druck process," or familiarly known also as the albertype process, and in this country as the heliotype and artotype. The process was invented by Mr. Albert, of Munich. It consists in coating a thick plate of glass with a thin film of gelatine, having mixed with it bichromate of ammonia. The whole plate is then exposed to light, which renders this film insoluble to water. After the film thus obtained is dried, the plate is again coated with another film of the same mixture and then kept in the dark until ready for exposure. It is exposed under the negative in the usual way. The part of the film exposed to light will not become wet when water is rubbed over it. After exposure the film is rubbed over with a sponge wet with warm water, until all parts not acted upon by light are wetted. The plate is then inked over and a sheet of paper laid carefully upon it, and then run through what is termed a hand-roller press, and when lifted from the plate, it has upon it the picture. He said that by using velvet rollers, different colored inks could be placed upon the plate, which, combined, would produce a very pleasant picture. Albert made prints of this kind in different colors by first photographing the object through blue, red, yellow and other screens, thus obtaining negatives of relative density to these colors. He then made as many impressions on the paper from as many plates as there were colors, and in this way obtained a combination print in colors that was very inexpensive. In place of making negatives of this description, he had seen in Paris an operator, having before him a specimen color-picture, with brush and palette, put the different colored inks on the printing-plate by hand, and then, after it was all carefully done, place the plate and paper in the press and produce an impression. He was able to ink over in this way about five impressions in one day, for which he received eight francs per day. Prof. Chandler exhibited a very pretty picture of this description, and showed a number of specimens made by the albertype process. At this point he exhibited the great attractive power of the gelatine film on the glass. The gelatine being harder and more powerful than the glass, had, in shrinking, pulled off sections of the glass surface. He remarked that Obernetter had improved the albertype process, but he did not know exactly how. He claimed to flow the plate over with a film of silicate of soda, and thereby produced a glazed foundation ; but Prof. Chandler thought there was no substantial difference.

He exhibited many specimens of the artotype, and, among other things, said the finest copper-plate etchings, on which an artist would spend perhaps two years in making, were reproduced perfectly by this process, and were even said to be better than the originals. He knew of a concern in New Bedford, Mass., which did very fine work in reproducing etchings on colored paper, that resembled old etchings. He instanced numerous examples where connoisseurs in old engravings and etchings had been uniformly deceived.

Following the description of the albertype and artotype processes, Prof. Chandler stated that they had been modified somewhat by Mr. E. Edwards, formerly of Boston, and connected with the Heliotype Company. Mr. Edwards called his reproductions heliotypes. The modification consisted in using a thick gelatine film as a basis of support for the sensitive gelatine film instead of a glass plate. He showed a specimen of one of these films, and it was exceedingly tough and hard. His old friend, Mr. T. C. Roche, made a further improvement by coating a sheet of copper with the sensitive gelatine film instead of glass. Prints made from this were called indotints. The prints are made in a steam-press the same as with the artotype. Mr. Husnic, of Germany, invented the leimtype, or more commonly called the glue-type. Instead of using glass as a support, he takes a much thicker piece of gelatine and washes away the unexposed parts with hot water.

Coming now to the photo-lithographic process, he remarked that the first successful method was invented by Mr. Osborne, and is called the transfer process, and is used to this day. The principle of the lithographic process was, he explained, the drawing of lines on a peculiar stone with greasy crayon. The stone is then flowed with acid, which dissolves its surface, except where the greasy lines are. These remain slightly elevated above the surface, from which the prints are made. He said the stone originally used was a limestone of peculiar composition, which came from Bavaria, and under the microscope the surface of it had the appearance of the roe of a fish. Mr. Osborne's success was in transferring to the surface of this stone a photograph in greasy ink. The process consisted in making a gelatine-albumen-bichromate-paper picture, then inking over with printing ink, and transferring the inked picture by contact to the surface of the stone. Only the parts containing ink on the stone would take ink from the ink-roller.

He next alluded to the swelled gelatine process. A thick piece of gelatine is coated with a solution of bichromate of potash and gelatine and exposed under a negative with strong contrasts, and washed out with hot water, which leaves, when dry, a raised picture. Next, this sheet is pressed or squeezed into a sheet of beeswax. The beeswax is then coated with powdered plumbago and then electrotyped. To obtain a type-printing block from the copper shell thus made, the type-metal, while hot, is poured on the back of the copper shell. When removed, it is tacked in the usual way on to a block and inserted in the printing press. This is only used for line work, and is called a photo-electro type. A more simple plan is what is now adopted in making photo-engraving blocks, which avoids the use of beeswax. It consists in pouring upon the gelatine-raised surface plaster of Paris. When the plaster of Paris is set, hot type-metal is poured upon that, and a block suitable for printing at once is the result. At this point he showed specimens of the beginning and completion of this process: how the original photograph is printed on silver paper; is then drawn over with a pen to form a picture in lines; how the photographic picture is then made to disappear by the application of a solution of bichloride of mercury; how the line picture is then reduced in the camera; then the gelatine-raised print from the negative is made; then the plaster-of-

Paris reproduction from the gelatine surface; and, lastly, the type-metal plate. Next followed a description of the etching process. Photo-zincography is a transfer process on zinc instead of on stone. The image is transferred, similarly to the Osborne process, on to a zinc plate. When acid is applied, it eats out the zinc in low relief. A very common method now in use is the asphaltum process, which consists in coating the zinc plate with a solution of asphaltum, exposing under a negative and then dissolving out the unacted-upon-by-light portions with the oil of lavender or an essential oil, and then eating it down into the zinc with an acid. Where the asphaltum remains on the plate, the acid has no effect. Thus, a block in high relief is obtained. Meisenbach first utilized this process by making a screen negative, or a negative full of small dots and lines, from the photograph. This was then printed upon the asphaltum surface and a block made in the way previously described. Prints thus made were called Meisenbach prints. Boussard & Valadon, successors to Goupil, have made some remarkable asphaltum copper-etched typo-gravure plates. It is supposed that the process is similar to that previously described. They sometimes reproduce copies of paintings by this process, and as many as eight different plates are printed from. When he visited the works in France, they were very careful to show him all the portions of the process except the vital one which he wished to know. The last group of processes is the *intaglio,* which means the reverse of the ordinary block processes — in other words, the picture is cut into the copper instead of being raised above the surface.

To make the ink stay in the sunken portions of the plate when the surface of the latter was wiped off, Woodbury introduced into the bichromated gelatine fine-pounded glass. When electrotyped, very fine plates were produced. It is thought Boussard & Valadon now use this process. Goupil & Co. purchased it from Woodbury. The copper-plate just described is put in a solution of iron, and a very thin film of iron electrotyped over the plate, in order to make it more durable.

Another photo-gravure process is a method of etching. A positive is made from the negative. From this positive a gelatine negative is made, the same as if it were on carbon tissue, on a copper-plate coated with bichromatized gelatine, and washed out with warm water and a sponge. The plate, previous to bichromatizing, is put into a large box and a dust of resin is raised, which settles equally all over the plate. When dry, it is etched out with a solution of perchloride of iron ; is then electrofaced with the iron or steel solution, and is ready for the press. The particles of resin have the property of making innumerable little points, thus producing a grain. [Prof. Chandler thanked the society for its attention to his remarks, and, in turn, was also accorded a hearty vote of thanks.]

The Boston Fifth Annual Joint Exhibition.

BY CATHARINE WEED BARNES.

THIS being the second exhibition held under the auspices of the Boston Camera Club in the joint series with the New York and Philadelphia societies, marked a most decided advance in the ideas pertaining to exhibitions formerly entertained by the leaders of the Boston club, and it is most gratifying to observe the high ideals now sought after, as compared with what had previously been regarded as sufficient. It had been the aim of the New York and Philadelphia societies to abolish classification with a view towards the simplification and equalization of awards, noticing special merit wherever deserved, especially as regards artistic qualities. The Boston club had, until this exhibition, clung to the notion that awards must be made by classes, which necessitated sometimes the granting of a diploma in a class where there was no competition. The newer method is generally regarded as the fairest, since all work is put on the same footing, so far as judging is concerned, and requires for judges persons quick to discern and appreciate the artistic feeling as well as the technical qualities of the pictures.

Awards thus given have a greater value than made in any other way.

This acknowledgment of the course pursued on the part of the other two societies, and a further extended amplification of it by the Boston club, is in itself a great gain, and will tend to put on a higher plane all future joint exhibitions. They will become more and more attractive, since they will show with more force each year the artistic results to be obtained by photography, and encourage many to study and practice it to that end.

The conditions imposed upon the Boston club, in taking the Boston Art Club Galleries, required the free entrance of the public to its exhibition, which was had by invitation card. It was thus obliged to rely upon the sum realized from the sale of wall-space and of the sale of catalogues for the major portion of its income. In some respects this may have been advantageous, since hundreds will come to a free exhibition, where they would not if a fee was exacted. The exhibition became very popular, and we are informed was crowded with visitors during the last two days. The large edition of catalogues published was soon exhausted, and the amount realized was ample to pay all expenses.

One of the annoyances the visitor experienced was the lack of harmony or system in the arrangement of the catalogue and the hanging of the pictures. The catalogue was gotten up independent of any pre-arranged plan, apparently, as regards the hanging, which rendered the work of obtaining information about special pictures quite difficult. The exhibits from the New York society were not kept together in one general group, but were distributed and intermixed with the work of other clubs. The plan adopted at the New York exhibition of 1891, of grouping each club's exhibit in a certain portion of the room, was much more satisfactory, as it enabled the visitor to see the work of each by comparison.

The salient features of the exhibition were the large display of portrait work, the remarkable marine pictures of one or two foreign photographers and the general excellence of the landscape work.

In our limited space we can but briefly touch upon some of the exhibits which attracted attention.

It will be our purpose, in commenting on the exhibits, to take up, first, those contributed by members of the Boston Camera Club; second, those by the New York Society of Amateur Photographers; third, those by the Photographic Society of Philadelphia; fourth, those by foreign exhibitors, and, fifth, those by members of other clubs and others not members of any club.

In the Boston Camera Club's exhibit Mr. Francis Blake, Auburndale, Mass., had a series of tennis studies, instantaneous, remarkable for technical detail, original pose, and as fine examples in this line of work as have ever been seen in an exhibition. His "Flight of Pigeons" was noticeable, also, as an example of what can be done with the focal-plane shutter. The picture was reproduced in THE AMERICAN AMATEUR PHOTOGRAPHER in February, 1891. Mr. O. A. Eames' (65–76) pictures were remarkable chiefly for their cloud effects, in which he has been very successful. The views of Nantucket were as good as those in the New York exhibition last Spring from Wilson, of Aberdeen. His work received a diploma. Mr. Benjamin Kimball (413–446) had a large and interesting collection, showing considerable variety, and many of the figure studies were not retouched. 447–452 were enlargements on porcelain, 450 being selected as one of the catalogue illustrations. His best work was his portraits.

Mr. J. Prince Loud (22–27) contributed bromide enlargements which received a medal, but would have appeared to better advantage if they had had a different colored mat. Of Mr. Walter G. Chase's (28–34) pictures, the best, it seemed to us, were "Miss Howells" and "Umbrella Mender." Mr. W. O. Witherell (473–475) received a diploma, as did Mr. J. S. Mason (635–636), and also Mr. Geo. H. Eaton (385–390). The best of the latter's work was 387, a portrait.

Mr. John C. Lee's (130–136) portrait studies received a diploma, and one of his studies appeared as an illustration in the catalogue. The clearness and delicate softness of his Italian violin boy photograph were remarkable. Mr. Wilfred A. French (364–377) received a diploma. His photographs were noteworthy for their careful rendering of detail and crispness. One of them appeared in the catalogue. Mr. T. James Babcock's conservatory studies were the best in his exhibit.

Mr. Henry W. Belknap (347–351) received a diploma for his numerous New Hampshire and Connecticut views. Mr. Wm. Garrison Reed (83–92) sent prints on bromide paper mostly of Vermont and New Hampshire views. They were marked, as a whole, by careful judgment in composition and execution. Mr. Cornelius Chenery (459–471) had several foreign views, an excellent dog study and several interesting landscapes.

Mr. Chas. H. Currier (409–411) received a diploma; but while his four interiors were good with regard to detail, the point of view was not well selected, and the angle of the lens was too wide. Mr. Edward R. Andrews (516–525) had several enlargements which preserved detail unusually well, and were not nearly so black and white, as is often the case. Mr. Geo. M. Morgan (391–406) received a medal, and showed a number of interesting portrait studies, of which he makes a specialty. They were well lighted and gracefully posed.

Mr. John C. Holman's (511–515) exhibit would have shown better printed in silver and would have brought out the half-tones more clearly than the process used. Mr. H. A. Latimer (531–565) showed as great variety as any one in the exhibition, and deserved more than the diploma which was awarded him. Mr. William Summer Briggs (161–184) had an exhibit which received a medal, and which most thoroughly deserved it for variety of tone, careful subordination of unnecessary detail when needed and in artistic composition. Mr. Briggs' work was specially noteworthy.

Looking through the New York Society of Amateur Photographers' exhibits, we noticed, first, Mr. Alfred Stieglitz's (314–331) work, most of which has been already seen by the public, and always with interest, so it loses nothing by repetition. His foreign views were especially good. He received a medal for prints and slides. Mr. Louis B. Scrahm's (353) "A Shady Lane" was a perfect bit of composition and an exceedingly well-managed landscape. It seems a pity that Mr. Schram does not exhibit more widely than he has done heretofore. Dutch studies (236–240) by Miss Elizabeth Almy Slade were capital examples of work, and showed her usual careful manipulation. They received a diploma.

Mr. A. L. Simpson had one frame of yacht studies, which were of superior quality and very good technically. Mr. Ferdinand Ruppert's (217–225) best picture, we thought, was 225, "All the Comforts of Home," showing a darky family enjoying themselves around a stove. Mr. H. M. Grisdale (283–313) showed landscapes which were especially noticeable for their careful rendering of half-tones, something too often overlooked. His work received a diploma.

Mr. Chas. Balliard (264–268) sent capital examples of work, especially the architectural bits. Mr. E. S. Bennett (216) had portraits of the New York artists in their studios, which were very interesting. This is a field which might be further cultivated. Mr. C. G. Hine (654–660) contributed a number of very good snow scenes and cloud effects.

Mr. Chas. I. Berg (127–128) also received a diploma for studies in posing, which were very graceful and original. Mr. Hugo S. Mack (332–338) sent interesting landscapes of the Walkill Valley and foreign views, carefully executed and printed in platinum. Mr. Edw. Leaming (269) showed two portrait studies, of which 269 was the better.

Mr. T. Mansell (493–494), of England, a corresponding member of the society, showed several very interesting and carefully executed carbon prints, both interiors and landscapes. He is to be specially commended for not using a small camera. Mr. John L. Stettinius (213–215), Cincinnati, Ohio. Mostly child and animal studies, well executed, and which received a diploma.

Of the other exhibits by members of the society, many are worthy of mention, but lack of space forbids extended comment; but in these we noticed Mr. G. W. Wundrum's group and the enlargement from the same, also Miss C. W. Barnes' figure studies.

The exhibitors from the Photographic Society of Philadelphia were not quite as numerous as in former exhibitions, but the quality of the work was fully up to, if not above, the average. Those of special merit were Mr. Chas. R. Pancoast's (378–384) landscapes and other studies, which justly received a medal. Clarence B. Moore (7–21) sent several examples of his work which had been shown at previous exhibitions. Among the best are "Uncle Zeke," "An Open Countenance," "Portrait Study" and "Knock dat Chip Off." He excels in taking darky portraits, and was awarded a diploma. Mr. Alfred Clements (639–644) showed excellent examples in platinotype prints of landscapes and tree studies in Florida and Normandy.

Mr. Robert S. Redfield (100-105) received a diploma for work which was well worthy of a medal. Several of his pictures were shown at the New York exhibition. Charles H. Miller showed five frames covering a variety of subjects, display excellent technical work and novel grouping. Mr. John G. Bullock (613-618) received a diploma, which he well deserved. His work was landscapes.

Just above his pictures hung the Norwegian views of Dr. Charles M. Mitchell (77-82), somewhat too high to be easily seen. "The Loen Vand at Vasenden, Norway," was one of the honor pictures in the recent Philadelphia exhibition. Dr. Mitchell also had a fine set of lantern-slides, and it seemed a little strange that neither prints nor slides received a reward. He received a slide medal at the exhibition in New York. Mr. George B. Wood sent nine studies. One of the best was entitled "Watching Grandma Smoke." Mr. Wood does not improve much over his former exhibits, but is still an indefatigable worker.

Mr. W. S. Clow (114-120) contributed exceedingly good examples of work and well worthy of the award given them. Mr. Henry Troth sent six frames, mostly of views in Canada, of fair merit. Mr. Wm. H. Rau's (453-458) "On the Conemaugh" was one of the honor pictures at the Print Exhibition in Philadelphia, and, as is usual in his work, was very picturesque, showing also superior technical excellence.

(To be continued.)

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Editorial Comment.

Our Illustration.—Seldom have we seen in a photograph such a happy combination of surf and cloud effects as appears in our illustration, which is from a negative made instantaneously by Mr. William B. Post, of the New York Society of Amateur Photographers, while on a pleasure trip to California and Japan.

In explaining how he obtained the view, Mr. Post says he was at Monterey, opposite the seal rocks. It was between three and four o'clock in the afternoon, and the approaching clouds and heavy surf attracted his attention. He aimed his camera towards the sun, shading the lens, and with his Ross lens stopped to f. 32, made the exposure, using a rapid Prosch shutter and a Cramer-Banner plate. The plate was developed with hydroquinone and potash. Mr. Post's excellent judgment in exposing at just the right time has secured for him a picture that is greatly admired and one that he highly treasures. We deem ourselves very fortunate in being able to secure this picture, and know it will please the majority of our readers.

The Boston Exhibition.—Among the comments on the management of the exhibition coming to our attention is one that no special mention of any particular picture or pictures in an exhibit was made by the judges, which it is thought in several instances should have been done, since a few of the successful competitors were aware that every picture in their exhibit was not of equal quality, and, if exhibited by themselves, would not attract special attention. It has been usual in former exhibitions to designate particular pictures, and we think it is a wise practice, since it concentrates attention on special models and enables the average photographer to learn by observation the valuable points.

Another point is the establishment of the equality of awards, which we think is preferable to having two qualities, as was the case at Boston. There should be one medal or one diploma. If there are thirty or forty medals available, grant them, should enough work of good quality be presented.

The Boston club tried to emphasize most emphatically the employment, as judges, of men who were only artists and not photographers, their point being the recognition of pictures only, regardless of technical excellence, believing that the artists would appreciate the last quality. We may have stated it too strong, but if that is the position, we must demur because we think it eminently becomes an exhibition which is to combine pictures and photographs, to have specially fine and difficult technical work receive some recognition. Photography is a science as well as an art, and while it may be following the course of popular approval to emphasize its art features, it is none the less wiser not to ignore and subordinate superior technical excellence. It is a wrong assumption to suppose that artists alone can appreciate special technical features in photographs. We notice they seldom do; hence we think a skilled, expert photographer of artistic temperament should be on a board of judges.

Lantern-slides having become so popular, forming by themselves a special branch of photography, we were sorry to note that the rules provided no special awards for them. They are entitled to the reservation of more than one medal, and we hope to see some reform in this respect in the future.

A Useful Summer Vacation.—On May 19th Miss Catharine Weed Barnes sailed for Southampton, England, on the steamship "Normannia," for a Summer's trip abroad, where she will spend most of her time in photographing English scenery. She intends to expose very nearly 2,000 plates, and doubtless we shall have the pleasure in presenting to our readers the results of her work, which we know will be appreciated. We hope, in a series of letters from her, to present a full account of English amateur photography as seen by an American observer. In addition to the photographic work Miss Barnes will do, she has consented to read a paper on "Amateur Photography in America" before the annual convention of photographers at Edinburgh in July, which will appear in our magazine in due time.

Record of the Sensitiveness of Plates.—We hope to perfect plans for the testing of the sensitiveness of plates and films during this Summer, and publish a record of the results. One of our subscribers has suggested the idea, which we think will be very useful. We shall be pleased to receive suggestions from our many friends on the subject.

A Trip Around the World.—Mr. F. G. Lenz started on Saturday, June 4th, from the City Hall on a trip on a bicycle around the world amidst a big crowd of bicyclists and friends. He carries with him a camera and an aluminium telescopic tripod, which we alluded to in our last number. As he takes this trip in the joint interests of *Outing* and THE AMERICAN AMATEUR PHOTOGRAPHER, we expect to present in the future many interesting reproductions from his camera. He built the camera after his own ideas, and uses films exclusively. He goes first to Albany, N. Y., then west to Buffalo and Chicago. We wish him success in his undertaking.

Photography at the World's Fair.

MUCH interest is still manifested in regard to the position the authorities at the World's Fair have taken against allowing amateurs and others to photograph in the grounds. The Hon. Benjamin Butterworth's letter published in our May number has stirred up others to put the matter in its true light, and it is hoped by united action on the part of the various organizations throughout the country some concessions may be finally granted.

From whatever point of view it is considered, the idea of excluding even so small an instrument as the hand-camera is repugnant to every public-spirited citizen.

We have undertaken the circulation of a petition, addressed to the Ways and Means Committee, among all the clubs and societies in the country, which will be duly presented.

The following is a copy, which explains itself:

"PETITION OF PHOTOGRAPHERS FOR THE EXTENSION OF THE PHOTOGRAPHIC PRIVILEGE AT THE WORLD'S FAIR.

" *To the Ways and Means Committee, World's Columbian Exposition, Chicago, Ill.*:

" Having learned that it is the decision of your Committee and that of the Executive Committee of the World's Columbian Exposition, that the granting of special permits to Amateur Photographers and others for the privilege of photographing in the Exposition grounds is to be refused, because they will interfere with concessions to be held by three or four professional concerns:

" We, the representatives of the Photographic Clubs and Societies of the United States, do most urgently petition you to reconsider your decision; first, in behalf of the thousands of Amateurs and others who will wish to exercise the right to photograph; second, because their work will make a far more valuable and complete record of the Exposition than is possible by the few to whom it is proposed to grant the privilege; third, because it is probable a larger revenue can be derived by the issuing of special permits to the estimated hundred or two hundred thousand photographers who will certainly visit the Exposition (at the rate of five dollars for a limited period of one week, aggregating very nearly half a million dollars) than will be realized by restricting the privilege to a few for a specified amount (which is likely not to be much above one hundred thousand dollars), while at the same time greater general benefit will accrue to all concerned.

" We hold that, as the camera is now so universally used by the public, and as the Exposition is a public enterprise conducted by the United

States for the public benefit and education, it is unjust to the public to restrict the photographic privilege as is now contemplated, when the same revenue can be effected by methods which will confer pleasure and instruction to an immense number, and with less friction.

"We earnestly request that the interests of the Amateur Photographers be especially recognized because of the increased revenue they may bring to the Exposition, on the plan outlined, and on account of the great value of the work they will create.

"We further request that special facilities for photographic work be provided for the Amateur on the Exposition grounds, from which an additional revenue can be derived above that previously mentioned.

"We ask for an early and careful consideration of the foregoing propositions."

No one can fail to see the justness and fairness of this paper. If the popularity of the Fair is sought after, the injustice of the proposal to bar out amateurs will become more forcible, and should be modified.

The feeling of the public press on the subject is amply shown in the following quotations:

THE CAMERA AT THE FAIR.—We have not seen immediately any of the enormous correspondence perpetrated by the Hon. Benjamin Butterworth in behalf of the World's Columbian Exposition, of which he is secretary; but we venture to say that no single letter belonging to it calls for contradiction and repudiation more emphatically than that lately addressed to the New York Society of Amateur Photographers regarding popular photography at the coming show. Mr. Butterworth was a veteran ready to retire from politics when the American public took up that delightful industry, both as an artistic and fascinating amusement and as a precise and lasting means of recording incidents and scenes whose memory would be valuable. Under his circumstances, Mr. Butterworth has not had the slightest chance to comprehend the wishes and feelings of the immense body of citizens, old and young, against whom he assumes the unwelcome attitude outlined in the following letter, directed by him to the secretary of the New York Amateur Photographers:

"Your favor of the 24th inst., relative to the right to photograph objects of interest at the Exposition, was presented to the Executive Committee of the World's Columbian Exposition yesterday, and the matter discussed at length.

"The photographic privilege at the Exposition is regarded as very valuable, and is one of the sources to which the Exposition must look for the reimbursement of the heavy expenses entailed upon it. While it was the desire of the committee to meet the wishes of the very large and influential body of amateur photographers of this country in the matter referred to, the very fact that this class is so numerous was deemed a serious objection to granting the permits you desire, as by doing so the value of any photographic privileges that might be granted would be seriously inpaired, if not wholly destroyed. Neither was it deemed possible by the committee for the Exposition to discriminate between those who were and those who were not amateurs in this art.

"In view of these facts, the Executive Committee reaffirms the action of the Committee on Ways and Means, and directs me to express its regret at the inability to comply with the wishes of your society."

We believe that if Mr. Butterworth had really been able, even approximately, to estimate the number of cameras in the hands of the American public, he would have thrown over the notion of confining the Columbian photographic privileges to a small professional syndicate as involving an insupportable and impossible monopoly. Since the original taming of the dog mankind has acquired no companion so pleasing or so universally accepted as the photographic camera. Leaving out the immensely important part photography plays in the higher branches of science, it is today, in its simpler and less pretentious paraphernalia, one of the most distinct and ever-present marks of civilization in every portion of the globe. It has become a household institution of infinite charm and substantial value, appreciable equally by youth and age. It should be encouraged by every intelligent influence that may fall into relation with it.

The managers of the Chicago Exposition are adopting a conspicuously unwise policy of economy in deciding to shut out amateur cameras for the sake of raising revenue from a few favored professionals. They would rob the Exposition of one of its most attractive features for countless thousands of expectant visitors. Rebellion against such a shortsighted, probably illegal and certainly oppressive restraint would extend beyond the ranks of actual photographers to the vast public, which has learned to sympathize with their enthusiasm and to profit from it. Any one who has entered the door leading to the ascent of the Eiffel Tower with his kodak over his shoulder, and has been forced to leave it with the doorkeeper, knows the lively sense of revolt against such an arbitrary deprivation. To apply a similar despotic and avaricious restriction at the Exposition held on the four hundredth anniversary of the discovery of America, and in the hundred and seventeenth year of our independence, would be altogether too violently contrary to the spirit of the time and of the occasion. The right to take a hand-camera into the grounds of the Fair is as simple as the right to enter upon the presentation of a ticket. Such a contrivance is to-day as natural an accompaniment of an American citizen as his hat or cane. To seek to prevent its use is the impulse of mistaken avarice and of hopelessly old-fashioned indifference to the needs and habits of the age.

In justice to Mr. Butterworth's colleagues, however, and to the many millions of people who will visit the Fair, it should be understood that there are cameras whose presence there can properly be disputed. While there are hundreds of thousands of smaller instruments in the public's hands, many ambitious and devoted enthusiasts are equipped with machines of a size too great for erection on walks and passages intended for the use of innumerable sightseers. Public convenience, of course, is superior in importance to the gratification of any artistic hobby. So far as the amateurs are concerned, it may perhaps be necessary for the authorities of the Chicago Fair to interdict the larger cameras, whose setting up and adjustment require more or less space. The management may find it necessary to draw the line at machines with tripods, and to limit the freedom of the grounds to such cameras as are carried under the arm and are capable of being worked in no more than elbow room. But the right to bear and operate those has grown into the fundamental law of the land, and it is to be maintained against every other consideration. We very much doubt also if it will seriously diminish the value of licenses to make the great pictures which Mr. Butterworth may properly reserve for professionals.

Upon the photography question the American public is solidly anti-monopolistic, and if the directors of the Fair are wise they will reconsider the decision expressed in Mr. Butterworth's letter and admit the camera with the camerist. Let them focus and snap to their hearts' content.—*New York Sun, May* 23, 1892.

In a letter to the New York Society of Amateur Photographers Benjamin Butterworth, secretary of the World's Columbian Exposition, announces that the Executive Committee of the Commissioners has reaffirmed the action of the Committee on Ways and Means, and has decided that only the parties who pay for a monopoly of the privilege shall be allowed to take photographs at the great Fair. There are hundreds of thousands of amateur photographers in this country who have been looking forward to the great Exposition with the hope that they would be able to take pictures of its scenes, its exhibits and the varied panorama of human life within its gates. To the photographic enthusiasts this has been the most pleasant anticipation in connection with the great show. From such photographs a very insignificant number of them have expected to derive any profit. The object of nearly all is amusement and the preservation of interesting mementoes for themselves and their friends. The Exposition Commissioners may have the legal right to prevent visitors from carrying and using portable instruments, but it would be tyranny for them to exercise it It is safe to say that, if subjected to indirect competition and comparison with the work of those allowed to bring small cameras into the grounds, the company having the exclusive monopoly of photograph sales within the grounds would do better work and charge more reasonable prices than if all outside photographers, amateur or professional, are prevented from taking pictures at the Fair.—*Newark* (*N. J.*) *News, May* 24, 1892.

The proposition to suppress the amateur photographer in the World's Fair in Chicago is impracticable. And it is not easy to see why a camera could not be used as legitimately as a pencil and a note-book. There is no doubt that the instantaneous picture fiend frequently makes a nuisance of himself, but he should not be debarred from privileges that will tend to mental improvement. — *Washington* (*D. C.*) *Star*, *May* 24, 1892.

We are informed that Stein & Rosch, of Chicago, have secured the right to photograph within the World's Exposition grounds. Judging from the experience of those who secured the same right at the Philadelphia Centennial and the World's Cotton Exposition at New Orleans, there will not be much money made out of the privilege. — *St. Louis and Canadian Photographer for May*, 1892.

And now a "cane camera" and a "pocketbook camera" are announced. Of course, such tools are only useful as toys. We once saw a little French camera — a little larger than a four-by-five plate — with which a dozen pictures could be taken on one plate by simply shifting the lens. It was the simplest contrivance of the kind we ever saw, and was sometimes utilized by the artist who owned it to catch a striking face on the street. Such a camera would be useful on the Chicago World's Fair grounds, where it is proposed to exclude all amateur photographers and make them buy their photographs of certain dealers. It would be pleasant to see the surprise which would appear on the faces of the men making that absurd rule if, after the big show is over, they could see the stacks of snap shots that will be taken in spite of them. What's the matter with a hand-bag or lunch-basket camera?—*New York Recorder*, *May* 24, 1892.

DROP THAT CAMERA. — The amateur photographer has struck a snag. He has heretofore sailed uninterruptedly, but the Executive Committee of the World's Fair has interposed an obstacle that is formidable. The unprofessionals must surrender their cameras at the gateway of the great Exposition. Unless the present decision is reversed, as it should be, there will be no focusing and no snaps by novices at the great Columbian celebration. Secretary Benjamin Butterworth, in behalf of the management, has written to the secretary of the New York Amateur Photographers a letter, in which he says. — *Monitor*, *Concord*, *N. H.*, *May* 28, 1892.

[See article on "Camera at the Fair" in the N. Y. *Sun* as above quoted.]

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Recent Exhibitions.

SECOND ANNUAL EXHIBITION OF PRINTS BY THE DEPARTMENT OF PHOTOGRAPHY OF THE BROOKLYN INSTITUTE.

The Exhibition opened on May 10th in the rooms of the Department at 201 Montague street, Brooklyn, and was intended to close on May 24th, but was continued some days longer because of the general interest. On entering the room near the door we noticed "Water Gap, Delaware," by Mr. Lewis P. Atkinson, as being a very peculiar enlargement, toned with uranium and salts of iron. The foreground was brown in color and the water was of a greenish hue. The sky was a trifle too dark, but otherwise the effect was novel. "Barque Crossing Bar at Sandy Hook," was a very good marine view and was also an enlargement. Of the "Views in Prospect Park," the one of the boat and trees was especially good.

Mr. George W. Boardman had a frame containing twelve views at Lakewood, N. J., of which the one in the woods and the one looking on the lake were the best. He also had a frame of nine views in Prospect Park, which, in general, showed good work and were tastefully mounted.

Most of the interiors by Miss Susie B. Skelding were under-exposed, but otherwise they were sharp and well arranged. In Frame 60 the view entitled "Prout's Neck," was the best.

The architectural views in Mr. G..W. Wundrum's exhibit were better than the rest of his work. In Frame 56, by Mr. Edwin I Rice, "View in Prospect Park" and "Washington Bridge" were very clear. "View in Litchfield County, Conn." was quite picturesque, and a pretty marine rock study was "Connecticut Rocks." Most of his work appeared to be well done and was probably made with a hand camera.

Of Miss L. Rowley's exhibit "Eight Months Old," was clearest, although "Crabbing" was a very good picture. Some good clear work was contributed by Miss Anna L. Meeker, in Frames 43 and 44. "Midnight on the Deep" was a very novel evening cloud study.

Mr. F. L. Lathrop contributed a miscellaneous collection of 3¼x4¼ instantaneous studies of various descriptions, including fireworks, animals, etc. As a whole, the pictures were either too hard or under-exposed. The prevailing fault of Mr. B. G. Way's exhibit was that the negatives were thin and uneven in character. It is surprising that the Hanging Committee allowed such a display to be hung. The best of the set was "Flower Garden Terrace, Prospect Park," the effect of light and shadow on the ground being fairly good. His "Interior of Reformed Church" was a fairly good reproduction of a difficult subject, while "Tabernacle Decoration, Thanksgiving, 1889," was an excellent picture of the church altar. The exterior and interior views of St. Luke's Church, Brooklyn, by Mr. W. H. Woodcock, were excellent. In the exterior the building was very good, but the roadway was too chalky or white. A novelty presented in one of the interiors was in having the Rector standing near the chancel. But technically the interiors were excellent. He also had some very clear and well-developed snap shots. The best of Mr. Horace W. Dresser's work was "Private Driveway, Buffalo, N. Y." The rest of his prints were too chalky and hard. Evidence was shown that the lens was not large enough for the plate by the corners of the picture being cut off.

"Drive in the Woods," by Mr. Gould W. Hart was printed too dark, while Dr. L. E. Meeker's pictures were too hard. Mr. Hart's "Snap Shots at the Circus," were admirable and his pictures of two pug dogs growling at each other were remarkably good.

The prettiest of the snap shots by Mr. Wm. H. Bedford was "Sound, Back of Greenport, L. I.," though all were clear and well developed. A pretty group by Mr. Edward W. Hirsh was entitled "Five Jewels." Most of his views were printed a little too dark and seemed to be under-exposed. An interesting picture by Mr. J. W. Morrow was "A Catch." "Walk, Prospect Park," was a very pretty scene. Most of his work was printed a trifle too dark. Mr. Prescott B. Vail exhibited some river views, which were quite attractive. His pictures were received too late to be included in the Catalogue. The pose of the figures in the flash-light, by Mr. August Treadwell, Jr., was too stiff. The most artistically posed in his set was "Study." The other pictures seemed too hard. Mr. Frank A. Willard's pictures were printed too black. The best of Mr. Arthur W. Fox's pictures was "Old House," and that had the sky too thin.

Mrs. C. L. Price had a series of views among which was one entitled "Jealousy," a very good picture of a dog. Prof. W. C. Peckham had examples of teleo-photographs that were interesting. One was made with a Dalmeyer R. R. lens and another with an opera-glass lens. Mr. William Gilchrist had a number of views, mostly of Prospect Park, but there was nothing specially attractive about any although they showed fair technical excellence.

In the collection of views by Mr. George H. Cook, was a very good road scene; some of the others were slightly foggy. Some very good portraits were shown by Mr. John H. Dingham, that of Mrs. J. E. Bouden, Jr. being excellent. His snap shot views were not equal in merit to his portraits. The enlargements of two portraits were very soft and interesting. Mr. Henry A. Carly exhibited a very pretty road scene in "The Hunters." The set of pictures by Mr. Henry J. Newton was very good. He had some of the best waterfall views in the Exhibition.

A very good interior by Miss Virginia C. Titcomb was "The Dining-room, White House, Washington, D C." The best of Mr. George W. Street's views was "Long Island Shore, Greenpoint."

Lantern-slides were exhibited by ten members. Those by Mr. Atkinson showed great variety in tone and were colored with uranium and salts of iron green, blue, red and brown. Messrs. Newton, Butler and Boardman also showed excellent slides.

We never saw a better arrangement for the inspection of slides than was provided. It looked like a long table on which was placed a raised cover with sloping sides, similar to show-cases. In the sides panels were cut out, in which were inserted the slides, backed by ground glass. The interior was illuminated by electric lights. The effect was quite pleasing and enabled the observer to see the slides by looking down upon them, the sloping sides being at an angle of about 45°.

There were a few transparencies of average merit hung in the center doorway and at the windows. In the upper work-room where the slides were displayed, were some fine examples of work on a screen sent by Mr. Hopkins of Omega paper fame. There were also models of hand cameras and optical lanterns for inspection. We noticed, also, that the Department possesses a large fine skylight without side light for portrait work, and all the conveniences for developing and enlarging.

The Committee in charge of the Exhibition is G. W. Hart, chairman, Dr. L. E. Meeker, E. L. Rice, W. H. Bedford, J. W. Morrow, R. T. H. Halsey, J. C. F. Priest.

There is no doubt the Exhibition was much better than the previous one and the general interest taken in it was greater. We believe no awards were made. There was no conformity in the hang of the frames with the Catalogue or *vice versa*.

SECOND ANNUAL EXHIBITION OF THE PORTLAND CAMERA CLUB.

The exhibition was opened by an exhibit of slides from the London Lantern Society, on Saturday, May 14th, and closed May 28th.

A large number of prints were shown, and the improvement over the previous show was apparent to all. The pictures were neatly arranged around the spacious walls and filled both the large exhibition rooms. In glancing over the club work, the most noteworthy improvement appeared in the general excellence of the subjects presented. The members have profited by reading photographic literature and by the criticism and study of many of the beautiful lantern-slides, which have been shown at the regular meetings of the club the past year.

By far the greater number of prints were made on albumen paper, though a number of omega prints were noticed. A good sprinkling of bromides, plain salted, and kallitype prints added variety to the display. Among those contributing views of special note were Messrs. P. H. Bronn and Son, of scenery along the Cape shore and harbor front near Portland, also W. C. King and Dr. L. P. Warren of studies of trees. The yacht and marine views of Mr. F. H. Little and the rural scenery of Mr. H. W. Shaylor, Jr., call for special mention.

Mr. H. M. Bailey showed a variety of prints in bromide, albumen and platinotype of a decidedly artistic nature. Mr. Chas. B. Fuller's frames of blue prints were marvels of careful work. The collection of blue prints by Mr. E. A. Hay was most excellent, but printed too light to do full justice to the subject. Mr. H. B. Coe contributed two banners of 4x5 pictures, illustrating a coaching parade at North Conway, which were very neatly gotten up and well taken.

Lack of space precludes any mention of the numerous other works of merit exhibited, so we pass to the generous contributions of the out-of-town clubs. The Photographic Society of Waterbury, Conn., contributed a large number of excellent views, illustrating a wide range of subjects. Mr. Pancoast's work attracted particular notice. The work of the Camera Club of Hartford was well gotten up and contained a number of most excellent plain salted prints. Those of Mr. Chas. F. Nason and H. W. Benjamin being selected in particular.

The Mystic Camera Club of Medford was represented by one club frame of ten well arranged prints; also a frame of eleven pictures, from Mr. Joseph H. Wheeler, which were well taken. The Springfield Club made an excellent exhibit of individual work. "Cooks Brook" and "Whateley Ravine," by John Leshure, and the landscape work of Hinsdale Smith, Jr., being considered best.

The New York Photogravure Co. sent some beautiful specimens of its work, though received too late to catalogue. Edward Bierstadt, of New York, sent a number of artotypes, which proved most attractive.

C. M. Litchfield, of Boston, sent some of his beautiful solar enlargements, which attracted much attention, one in particular, a marine view, appearing to advantage.

The slide exhibitions given proved an attractive feature and drew well. The rooms have been well filled and a number of catalogues sold, so the committee feel, on the whole, satisfied. FREDERIC S. BULLARD, *Secretary.*

SECOND ANNUAL PHOTOGRAPHIC EXHIBITION OF THE AGASSIZ ASSOCIATION, MANHATTAN CHAPTER, NEW YORK B.

The exhibition was held in the parlors of 139 East Fortieth street between May 20th and 27th inclusive, and comprised the work of twelve members of the association. Passing from the hallway into the main room, we noticed on the right the entire side of the room taken up by the very artistic and charming exhibit of Mr. Edward Miller, who had the largest display of any single exhibitor, and which received two awards. His preference seemed to be landscape work, bridges and buildings. He was very happy in selecting many of his views. One in particular we noticed, "A Grassy Lane," which was very soft; another, entitled "A Rockland Road," was excellent. On the opposite side of the room, near the door, was the exhibit of Mr. William T. Demarest, who, we were informed, had sent his pictures too late for competition. In his exhibit we noticed two views, one entitled "Blackberry Blossoms," the other "Shades of Evening." The latter was looking out from under a dark grove into a distant meadow. The atmospheric effect was charming. Occupying the rest of this side of the room were the exhibits of Mr. Herman Bucher, Jr., who also received an award for excellence in portraits. Among his pictures were some of Swiss girls and foreign scenery. His work indicated care and neatness. Another large exhibitor was Mr. J. H. Loskaru, Jr., whose views of the Bronx were very good. He also had one or two specimens of uranium-toned prints. Perhaps his views in Central Park were among the best. The exhibit of Mr. Charles J. Miller was also very large, and his specialty was portrait and animal studies. He had a large number of prints—about seventy-three—but his tendency was to print some of them too dark. Mr. Charles Putnam showed a number of small views, very well done, of the new naval ships. Some fairly good hand-camera pictures, taken in Germany, were by Mr. Christian F. Groth. Dr. John Beuermann exhibited three portraits. Mr. Alfred Dressler had views near Red Bank, N. J., and near the Shrewsbury River. They were made on aristotype paper and were quite good. Mr. Herbert Albers had a number of prints, mostly in Brooklyn, that were fairly good, though we thought many were printed too dark. Several views of New Jersey were exhibited by Mr. Anton Nehrbas, who also had some groups, printed on aristotype paper. Mr. Anton Schroeter showed a series of views of the Ohio and also some foreign views. They were printed on bromide, kallitype and silver paper and were of good quality.

Altogether, the exhibition, though not very large, was full of interesting work, and showed variety and individuality. Particular pains had been taken to have a very pleasing background for the frames. The special board backing had been put up, and over this had been laid in folds a light colored cloth, which gave a unique and charming effect. The awards were made as follows: Landscapes—First award was received by Mr. Edward Miller for his picture entitled "To the Observatory, Sparkill, N. Y."; second, by Mr. J. H. Loskarn, Jr., for "Arched Pathway to the Cave." Mr. Herman Bucher, Jr., was given the first award for portraits for his picture "To Your Health," while Mr. Edward Miller received second for "Frank." The first award for the best exhibit was won by Mr. Edward Miller, Mr. H. Bucher, Jr., receiving second, and honorable mention being given to Mr. Charles J. Miller. The judges were Mr. Henry Prellwitz, Dr. Edward Leaming and Mr. Fred J. Harrison.

The officers of the association are: President, Mr. Edward B. Miller; vice-president, Mr. Frederick Schneider; secretary, Mr. Christian F. Groth; corresponding secretary, Mr. William T. Demarest; treasurer, Mr. William S. Miller; librarian, Mr. Charles J. Miller.

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Society News.

Under this head we propose to publish all society matters of scientific or technical value which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—*Exhibition of Lantern Slides, Friday Evening, May 6th.*—The evening's entertainment consisted of slides by the Newark Camera Club to the Conference Slide Interchange, also those of the Cincinnati and New Orleans Camera Clubs to the American Lantern Slide Interchange. Mr. Wm. M. Murray acted very acceptably as the lecturer of the evening.

Among the selections from the Newark Club the most meritorious were: local views, by P. I. Thiery; foreign views, by Miles I. Anson; yachting and coast scenes, by T. A. and G. C. Hine, including a series illustrating the working of a full-rigged ship, the *Governor Goodwin*. "Going Aloft;" "Setting the Main-Royal;" "Setting the Fore Staysail;" "Weighing the Anchor;" On the Lee Bow," were the most striking of the set.

In the slides of the Cincinnati Camera Club the following deserve mention: "Sister Simplice," a very good ideal of a nun, by Mrs. A. A. Hall; some genre subjects, by H. J. Buntin; landscapes, by T. B. Collier. and a few fair pictures by E. J. Carpenter and E. E. Shipley.

The New Orleans set was a marked improvement over former contributions, and there was a worthy effort, on the part of the compiler of their list, to furnish brief notes, which did much to add an interest to their slides.

Slides illustrating New Orleans and vicinity were contributed by L. E. Bowman, H. Carpenter, T. W. Castleman, H. C. Delery, S. L. Mitchell and Placide Reynes. More than one-half of this club's contribution was the work of F. B. Warner, most of which were in illustration of life, cathedrals, museums and scenery in Mexico. Mr. Warner's series showed him to be an intelligent and observing traveler, and his slides, besides being of sustained interest as characteristic of Mexican scenes and history, were the best in point of technical excellence of the evening's exhibition.

Tuesday Evening, May 10th, Regular Monthly Meeting.—The subject of the evening was an informal lecture on "Photo-mechanical Printing Processes, " by Prof. Chas. E. Chandler. (See abstract on another page).

Friday Evening, May 13th, Special Exhibition of Lantern Slides. —The slides shown were those contributed by the Brooklyn Academy of Photography to the Conference

Lantern Slide Interchange, followed by others by members of the society. Mr. Wm. M. Murray acted as lecturer. The Brooklyn set numbered one hundred, and in technical excellence ran very evenly—in fact, was one of the best of the Interchange series shown during the Winter. The slides were very clear and especially adapted for a large screen, without being at all snowy.

Perhaps the high quality may be in part attributed to the splendid example set by Mr. W. T. Wintringham, who alone furnished thirty-five pictures, including landscapes, marines, street scenes, and some very remarkable specimens of rapid shutter work. The Brooklyn society has several members who are expert at catching the effects of rapid motion, and who, moreover, are able to construct and improve their shutters to suit the work to be done.

Frank La Manna had some fine pictures of foreign travel, the most interesting of which, perhaps, was a snap-shot from an ocean steamer, showing a storm wave under heavy clouds. G. Poey had eleven slides, covering quite a range of subjects. Other contributors were Mr. Trowbridge, three; Mr. Arnold, Mr. Lawrence, Mr. Mills, Mr. Fowler and Dr. Hoagland. The set was accompanied by a very clever lecture, brief and racy, which formed a connected story, bringing in each slide incidentally and sometimes with considerable humor. It did not mention the makers of the slides, but dwelt more particularly on the subjects of them, occasionally introducing useful facts. It was not read, however, at this meeting, it having been our experience that the audiences we entertain prefer a light, running comment to a written lecture, however good.

The Brooklyn slides were followed by seven miscellaneous subjects, by Daniel K. Young, of the home society, which were characterized by a warm tone, of singular purity and fine grain, produced by the use of old and well-restrained hydroquinone and phosphate of soda developer. The entertainment closed with eighteen pictures by William B. Post, part of his Nassau collection. They were coast scenes and marines mostly, interspersed with examples of the native population. The original negatives were on Cramer's isochromatic plates, and showed the capabilities of an emulsion treated for color in the variety of cloud effects, which were something remarkable. The last slide, showing the round disk of the sun sinking into the horizon, was one of the most realistic scenes ever thrown on the screen. The great globe seemed to glow with liquid fire through the hazy evening sky, which was flecked with clouds. Mr. Post is to be congratulated on his success with new materials, and no doubt a demand will spring up among the members for orthochromatic plates and effects of light and color.

Friday Evening, May 20th, Special Illustrated Lecture.—Dr. E. C. Bolles, a member of the society, gave a very entertaining lecture before a crowded house, on "English Waysides and Cathedral Towns." His selection of slides was excellent and his comments were most instructive.

Friday Evening, May 27th, Regular Exhibition of Lantern Slides.—The slides shown were those contributed by the Lantern Society of London to the American Lantern Slide Interchange, this being the last exhibition of the season. Mr. Wm. M. Murray presided at the screen, while Messrs. W. H. Hapgood, C. C. Roumage and Fred Elgar operated the lantern. The characteristic feature of the set was the illustration of the famous cathedrals and abbeys of England, not only the exteriors and interiors receiving attention, but also the minor details of ornament and architectural detail, generally unnoticed by the tourist amateur.

Frederick H. Evans had slides of Canterbury Cathedral, as well as some delightful studies of English hedgerows, which were marvels of delicate detail.

Commander C. E. Gladstone, R. N., contributed pictures of Canterbury stairs and gateway, interiors and fragments of York, Exeter, Ely, Wells, and Norwich Cathedrals and of Glastonbury Abbey. The Reverend Messrs. Pim and Hick illustrated Tyne-mouth Priory and Crowland Abbey. F. York's pictures of Jamaica and Trinidad were fine examples of the wet collodion process.

Andrew Pringle's three slides were much admired, especially a landscape on a collodio-albumen plate. S. G. Buchanan Wollaston's six pictures of Kentish subjects, besides being very artistic, were instructive in showing the different effects produced by toning collodio-bromide and gelatino-bromide plates. However, the last two, untoned gelatino-bromide, were hardly inferior, in richness of color and half-tone, to the others. A. R. Dresser's contribution excelled in quick shutter work, of which perhaps the most remarkable were "The Climbing Dog," "Putting the Stone," and "The Tug of-War."

Besides these, were illustrations of Holland and Germany by Messrs. Stainthorpe and Kapteyn, some very clever flower studies by John Carpenter ; the whole concluding with a set of twelve by Edgar G. Lee, every one a gem of art. The set of one hundred slides was furnished with explanatory notes and facts, which were used by the lecturer of the evening as the basis of his remarks.

The exhibition concluded with six slides by Chas. Balliard and thirteen by William B. Post, of the N. Y. Society, the latter including selections from his California, Japan and Nassau work.

PHOTOGRAPHIC SECTION OF THE AMERICAN INSTITUTE.—A regular meeting of the section was held at its rooms, 113 West Thirty-eighth street, N. Y., May 4th, President Newton in the chair. Mr. A. D. Fisk and Prof. Elmendorf showed a collection of slides. A discussion on rodinal followed, and Prof. Elmendorf stated that he had tried it and considered pyro as good as any, with hydroquinone as a close second. Mr. Becker's experience with rodinal was that the negatives lacked density, but when used with hydroquinone, he obtained negatives of fine density and good detail. Mr. A. L. Simpson also found that rodinal or para developer did not give sufficient density, but had obtained good results by ending the development with pyro. Prof. Elmendorf spoke of the appearance of minute drops forming on the cover-glass of slides. He thought they were not due to hypo, nor to the plate or mat. After some discussion by others, it was thought the appearance of the drops was due to the soda in the glass attracting the moisture from the atmosphere.

NEW YORK CAMERA CLUB.—Mr. P. C. Duchochois lectured before the club on May 16th. He is to give further lectures on special subjects.

DEPARTMENT OF PHOTOGRAPHY, BROOKLYN INSTITUTE.—The chief feature of the department the past month was the Second Annual Exhibition, a description of which is given on another page of the magazine.

Monday Evening, May 2d.—A regular meeting of the department took place in the Y. M. C. A. building, and the subject under discussion was an informal and thoroughly practical talk on emulsions, given by Mr. Edward H. Lyon. George H. Cook, president of the department, called the meeting to order, and announced that at the conclusion of the lecture the annual election of officers would be held. In opening his talk Mr. Lyon said that it was surprising to consider how near and how long the world could remain within the turn of a screw to some important discovery that would revolutionize existing conditions and enable the human race to lead a longer and better life without coming upon it. Had not Dr. Maddox discovered that bromide of silver, suspended in gelatine, was so susceptible to light, the world might have waited a long time for some one else to find it out. The discovery of that mysterious white, paint-like substance covering the sensitive dry plate had opened a vast field to art and science. The lecturer then, with the appliances before him, proceeded to illustrate the preparation of the dry plate. The large manufacturers, he said, maintained immense factories and purchased the glass by the ton. The plates were coated by machinery and everything was carried on upon a large scale. Plate-making by the amateur was, of course, not so extensive, but was quite inexpensive. The cleaning of the films from old plates was one of the disagreeable, though not difficult, tasks. The best method to accomplish this end was to keep the plates in a strong solution of common washing soda. Mr. Lyon then took some plates from a jar of that solution and showed how easily the film could be removed. He recommended that the plates be polished just before coating. To do this, whiting and a chamois-skin moistened with alcohol were used, and only the side to be coated was polished. As to the emulsion used in coating, the lecturer said that no two chemists made it even approximately alike, for it was sure to vary in density, speed and other characteristics. The better way was to prepare it in small batches and to mix it afterward, as more satisfactory results could thus be obtained. The following formulæ were given, from which the emulsion was made and applied by the lecturer. Some makers prefer one and some another: A—Distilled water, 1½ ounces; hard gelatine, 20 grains; ammonium bromide, 80 grains, and potassium iodide, 2 grains. B—Nitrate of silver (crystals), 33 grains. or C—Distilled water, 1½ drams, and nitrate of silver, 20 grains; or hard gelatine, 60 grains, or hard gelatine, 30 grains. The lecturer showed how these formulæ were manipulated, a process which in the entirety takes several hours.

During the lecture the members of the class had pertinent questions to ask, which Mr. Lyon had invited and answered. At the conclusion of the talk the election of officers was held, resulting as follows: G. W. Street, president; Gould W. Hart, vice-president; W. H. Bedford, secretary; Dr. L. E. Meeker, curator, and P. L. Le Brun, treasurer.

Wednesday Evening, May 11th.—At the Art Association Hall, Mr. Alexander Black gave his interesting popular illustrated lecture on "Ourselves as Others See Us."

BROOKLYN ACADEMY OF PHOTOGRAPHY.—At Jefferson Hall, Brooklyn, before a large audience, the academy gave an exhibition of slides on Tuesday evening, May 3d, the subjects being "The Berkshire Hills" and "Mexico," representing the work of Starks W. Lewis and H. B. Fullerton. On May 16th, in the hall of the Art Association, the academy gave its closing exhibition of the season before a large audience of the slides it had contributed to the Conference Lantern Slide Interchange. These were followed by several others by different members, among whom were President Frank La Manna, Vice-President Poey, Messrs. Wintringham, Arnold, Smith, Fullerton, Fowler, Lyons, Mills, Lewis, Morrison and others.

The exhibition was full of interest, ard proved one of the most successful lantern-slide displays of the season. The academy has every reason to be proud of its work. No better interchange set, in its entirety, has gone the rounds of the conference clubs this year. Mr. La Manna presided at the screens.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting of the society was held Wednesday evening, May 11th, the President, Mr. Joseph H. Borroughs, in the chair.

The Board of Directors reported the election of several active members.

After the reading of the minutes and the conclusion of the regular routine business, Julius F. Sachse, Esq., read a paper upon "The Chronological Portraiture of General George Washington." In connection with this subject the lecturer exhibited a series of thirty-six portraits of the illustrious subject in platinum, black and sepia, arranged in chronological order, and including every known authentic portrait from life, from Peale's first study at Mt. Vernon in 1772 to that of St. Memin in Philadelphia in 1798, the last ever made from life.

Included in the collection were photographic copies of the mask taken of Washington's face by the celebrated artist Hondon. Hondon came to this country for the purpose of modeling a statue of Washington, which was to be placed in the Capitol of Virginia, pursuant to a resolution of the General Assembly in June, 1784.

He spent two weeks at Mount Vernon in making sketches and careful measurements of Washington's person, and on October 13th of that year he made, in plaster, a mask of the face, from which a cast was made and the well-known bust modeled.

The original life-mask remained at Mount Vernon, and upon the occasion of the removal of the General's body to the present sarcophagus in 1832, it was loaned to Struthers, the Philadelphia marble mason, who made a plaster cast from the mask.

This was presented to the Historical Society of Pennsylvania, and from the cast Mr. Sachse made the three photographic studies which give a clearer conception of the true lineaments of the illustrious original than any other portrait in existence.

The portraits were arranged against the wall in such a manner that the changes wrought by the cares of State and increasing age could be clearly traced, the whole offering an opportunity for a comparative study of Washington portraiture never before presented.

Upon the conclusion of the address it was resolved, upon motion of Mr. Hudson S. Chapman, that a vote of thanks be extended to Mr. J. F. Sachse for his interesting and valuable paper read before the society this evening.

Mr. A. E. Maris exhibited a Hetherington magazine hand-camera, and explained the mechanism and practical manipulation.

Mr. John Carbutt followed with a "Genie" hand-camera. A number of specimen prints made by this camera were also shown.

A collection of lantern-slides, made by members of the Waterbury Photographic Society, were to have been shown, as announced, at this meeting, but as they failed to materialize, a number of excellent Mexican views by Mr. Wm. H. Rau were substituted.

Adjourned.

Wednesday Evening, May 25th.—The society gave an exhibition of the 120 prize English slides contributed to the American Lantern Slide Interchange by the English journal *Photography.*

CALIFORNIA CAMERA CLUB. — Wednesday evening, April 27th, there was a "club talk," and a question box was opened. At the regular meeting on Tuesday evening, May 3d, that portion of the by-laws relating to the date of holding the annual meeting was amended, changing the date from the regular meeting in March to the same meeting in April of each year. Following the business was an exhibition of slides of the Schuylkill Camera Club, of Pottsville, Pa. On May 4th the concluding paper on "Development" was given by Prof. O. V. Lange. On the 8th the club had an outing to San Leandro and Lake Chabot, President Hosmer acting as guide.

Under date of May 9th the club sent out a special letter to the several camera clubs, urging them to join the

AMERICAN PRIZE PRINT INTERCHANGE,

stating that it is only necessary to make a formal application and agreement to conform to the resolutions. These were adopted in August, 1891, and are slightly changed, giving more time for the sending in of the prints. The rules were published in the September, 1891, number of THE AMERICAN AMATEUR PHOTOGRAPHER. Rule 7 is amended, allowing ninety days instead of sixty for forwarding prints from one club to another. Rule 5 in the contest branch is amended to provide for the sending in of prints to the Executive Committee ten days before the opening of the print exhibition. The letter concludes as follows:

"As this is a most thoroughly photographic scheme, we trust you will encourage it by taking an active part. The clubs already belonging are the Columbus Camera Club, Mattapan Camera Club, Hawaiian Camera Club, New York Camera Club, the Camera Club of Hartford, Buffalo Camera Club and the California Camera Club.

"We believe this plan will prove an incentive to more careful work by all clubs and members individually, as it will furnish examples of the best photographic work throughout the country. Trusting if your club has not already sent in its application that it will do so at once, we remain, very truly yours, the California Camera Club, per order Executive Committee American Prize Print Interchange, Edward L. Gifford, C. F. Thierbach, W. J. Street."

At the club talk on May 11th, President Hosmer gave a practical demonstration of his method of making silver prints. At the "talk" on the 18th there was a general discussion of photographic matters, after which followed a light luncheon, and a very pleasant evening was spent. Another "outing" of the club was held on the 22d to Paper Mill Creek, Marin County.

On May 19th the club entertained the American Society of Mechanical Engineers with an exhibition of lantern-slides, showing the development of the cable railway system in the city, and pictures of mining and pumping machinery. The exhibition was much appreciated by the members of the society.

"Recent Visual and Photographic Astronomy" was the subject of the twenty-fourth illustrated lecture of the club, which was given on the evening of May 27th in the Metropolitan Temple. The lecture and slides were by Prof. E. E. Barnard, of the Lick Observatory.

THE CRANFORD (N. J.) CAMERA CLUB.—On Memorial Day the club went on an outing to the German Valley and Schooley's Mountain. Some excellent views of this locality were secured. A very enjoyable time was the result of the trip. The officers of the club are William Chamberlain, president; J. M. P. Joseph, treasurer, and A. H. Plummer, secretary.

NEWARK CAMERA CLUB.—Friday evening, May 6th, the club gave a very interesting lantern-slide exhibition of work of its own members, including sixty-five slides by Messrs. T. A. and C. G. Hine, illustrating a yacht trip from New York to Florida, and the work of fifteen other members. May 16th the club was entertained by Mr. Starks W. Lewis, who gave his illustrated lecture on the "Berkshire Hills," which was greatly enjoyed On May 30th about twenty members and fifteen others of the club went on an outing to Kenvil, on the Lackawanna road. Dinner was had at the Voortmann House. Many excellent pictures were secured.

NEW HAVEN CAMERA CLUB.—A new club under the above name has been organized in New Haven, Conn. The secretary is Mr. F. Joseph Chatterton. On May 30th about twelve members joined the Hartford Camera Club on its outing to Twin Lakes, Litchfield.

LYNN CAMERA CLUB.—A very successful outing was taken by many members of the club on May 16th to Bolton, Mass.

NASHUA (N. H) CAMERA CLUB.—The club held an interesting meeting on the evening of May 19th. It has arranged to give its first annual exhibition of photographs and views Friday and Saturday, June 3d and 4th. Among the pictures promised are those by Mr. George A. Nelson, of Lowell, Mass.

HARTFORD CAMERA CLUB.—On the evening of May 10th Dr. A. J. Wolfe gave a demonstration of photo-micrography.

Tuesday Evening, May 24th —The club gave a lantern-slide exhibition of some very interesting views in the Yosemite Valley.

Decoration Day, May 30th.—The club held its eighth annual outing at Twin Lakes, situated about fifty-eight miles west of Hartford, on the Central New England and

Western Railroad. Several members from the New Haven, Springfield and New Britain clubs joined the Hartford club. In all, about one hundred people went on the outing. The Outing Committee consisted of Chas. R. Nason, F. A. Thompson and H. W. Benjamin. A most enjoyable day was spent. About three hundred exposures were made.

CAMERA CLUB OF WEST SOMMERVILLE (Mass.).—This club has just been organized and held its first meeting on May 16th. A number of ladies and gentlemen have joined.

WORCESTER CAMERA CLUB.—A number of enthusiastic camerists of Worcester met on the evening of May 24th, in Becker's Business College, for the purpose of organizing a photographic club. Considerable interest was manifested, and it was voted that the club be known as the Worcester Camera Club. The club starts out with favorable prospects and a membership of about fifty. The following officers were elected: President, D. W. Carter; vice president, A. M. Powell; secretary, Albert H. Chaffee, and treasurer, E. C. A. Becker. The Executive Committee consists of the officers already named, and Jerome Marble, Geo. H. Corbett and Mrs. F. W. Blair.

LOWELL CAMERA CLUB.—On May 19th, at a meeting of the club, it was voted to lease for three years new club-rooms in the Runels Building, and a special committee, consisting of Paul Butler, W. P. Atwood, Charles Runels and George A. Nelson, was appointed to fit up the rooms with photographic conveniences in the best manner.

BUFFALO CAMERA CLUB.—On the evening of May 7th were shown the slides of the Society of Amateur Photographers of New York contributed to the American Lantern Slide Interchange.

THE CAPITOL CAMERA CLUB, of Washington, D C., held the first annual meeting on the evening of May 7th, 1892. The following officers were elected: Chas. E. Fairman, president; Rev. E. Drewitz, vice-president; Chas. A. Cooper, secretary; C. L. Dubois, treasurer.

THE CHICAGO LANTERN SLIDE CLUB.—The secretary, Mr. W. A. Morse, reports that on April 25th a severe fire in the Chicago Athenæum broke out while the Chicago Architectural Sketch Club was holding a reception and exhibition of the World's Fair Architectural Drawings. Their club rooms are also used by our club; we were very fortunate in escaping by one floor only. The fire was stopped on the floor above after burning out the fifth, sixth and seventh stories. The Artists' Club lost everything, and our beautiful rooms were drenched thoroughly with water and all decorations spoiled. Our curtain and lantern escaped damage.

CHICAGO CAMERA CLUB.—On the evening of May 10th, Rev. H. B. Waterman gave an interesting lecture illustrated by 150 colored slides, on Japan. The following are the officers of the club elected at the annual meeting in April: President, Dr. C. F. Matteson; first vice-president, Gayton A. Douglass; second vice-president, Mrs. A. C. Badger; secretary, E. Burton Holmes; treasurer, Thos. B. Patterson (at Atlas Nat. Bank); librarian, Miss Josephine B. Putnam.

COLUMBUS CAMERA CLUB.—The regular meeting of the club was held on the evening of May 26th. The subject of "dark rooms" was presented by Mr. F. H. Howe. Mr. J. N. Bradford explained briefly the principles on which the new telo-photographic lens is constructed.

On Decoration Day the members of the club went on an outing in wagons to the country just north of Dublin, Ohio.

The club has tendered the use of its rooms as headquarters for the annual meeting of the Photographers' Association of Ohio, which is to be held in Columbus next August, The offer has been accepted and is greatly appreciated by the association.

PROVIDENCE CAMERA CLUB.—Memorial Day was celebrated by a club dinner at the Highland House, Cumberland Hill.

PITTSFIELD CAMERA CLUB.—On the afternoon of May 31st the club was entertained by Mrs. E. D. Jones at her cottage on Pontoosic Lake. The club is reported to be in a very flourishing condition.

CLEVELAND CAMERA CLUB OF THE CASE SCHOOL.—An exhibition of lantern slides was given by the club on the afternoon of May 19th in the new laboratory.

ST. LOUIS CAMERA CLUB.—On May 28th the club went in a special car on its annual field-day to "Piasa Bluffs," and had a splendid time. The railroad arrangements were furnished free by Mr. H. A. Fisher, general manager of the "Bluff Line," who is himself an amateur. The club got up a number of prizes for the best field-day negatives and slides, to be awarded a certain time after the excursion. Our space forbids giving the lists in detail.

ROCKFORD CAMERA CLUB (Rockford, Ill.).—The club held its regular meeting on Monday, May 9th, at which there was an exhibition of two hundred blue prints of Colorado scenery, by Mr. Vrooman. Mr. Junkins showed several transparencies. Mrs. Fraley and Mrs. Rew exhibited examples of late work. Dr. Hanaford called attention to the changes occurring in plates that have stood for some time. It was voted to change the time of the regular meetings from the second to the first Monday in each month. Next month Dr. Kimball will exhibit his collection of Yellowstone views.

CINCINNATI CAMERA CLUB.—The club went on its annual outing May 30th, to Batavia, O., the party numbering nearly one hundred. Many excellent pictures were obtained. Among the members present, many of whom were accompanied by ladies, were Messrs. Collier, Johnston, McCord, Barton, Green, Klum, Stettinius, Frithian, Daniels, Jones, Buntin, Shipley, Peck, Kelley, and others.

NEW ORLEANS CAMERA CLUB—At the regular meeting held on May 4th, the matter of new quarters was discussed, and a committee was appointed to take steps towards securing an exhibit to represent the club at the World's Fair.

Major Quinn offered to take the club on an outing on May 8th down the river on the new light-house tender *Arbutus*, which was accepted. The outing took place and was very enjoyable, and was attended by many members and friends. Several interesting views were obtained.

MYSTIC CAMERA CLUB, MEDFORD, MASS.—Tuesday evening, May 17th, the club gave its illustrated lecture of "Paul Revere and his Midnight Ride." The set of fifty-two slides and lectures were prepared by the Mystic Club for the New England Lantern-Slide Exchange, and proved quite a departure from the usual style, as well as an interesting one. There was a very large attendance. Among those present the club had the honor of the presence of Wm. Revere, of Canton, a great-grandson of Paul Revere, who exhibited great interest in the lecture. He responded very graciously to a call for him, giving those present many points on the life of Paul Revere. The club is making great preparations to attend the meeting and excursion of the amateur photographers of New England at Providence, June 17th, which promises to be a most enjoyable affair.

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Books and Exchanges.

PHOTOGRAPHIC WORK.—The first number of this new English weekly came to our table early in May. It is printed in the same style as the old *Photographic News*, and by its former publishers, Messrs. Piper & Carter, 5 Furnival street, London, England. It is a twelve-page journal, edited by Thomas Bolas, formerly editor of the *News*, and will be a useful addition to the literature of photography.

EXPERIENCES IN AMATEUR PHOTOGRAPHY, by a pair of amateurs, in *Outing* for June, will be read with interest by all lovers of the camera. The number throughout is a very strong one and finely illustrated.

A TWO SHORT VACATION.—The title of a new book of 264 pages by Lucy Langdon Williams and Emma V. McLoughlin, illustrated by nearly fifty engravings from the kodak camera, and published by J. B. Lippincott, Philadelphia, Pa. Presented by the Eastman Co.

It is the story of two girls who went to Europe with a kodak, and is amusing and well written. In general the single portraits appear to come out more clearly than many of the views. It is a capital illustration of the value a camera is to those going off on a trip for pleasure who know very little about photography.

AN INTERESTING PHOTOGRAPH.—From the Eastman Kodak Company we have received a 6½ x 8½ photograph (taken, we presume, on the Eastman film) of President Harrison and other distinguished men as they appeared in Rochester when visiting the works of the Eastman Company on Memorial Day. The picture was made in the Kodak Park, with factories for a background. Near the President stand Governor Flower, Frederick Douglass, Secretary Noble, of the Interior Department, while in other portions of the group are seen familiar faces of Congressmen, Senators, city and State officials.

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Publishers' Department.

[In justice both to ourselves and to those firms whose specialties are mentioned in this department we desire to state that we neither ask nor receive compensation for such notices as are given Any dealer or manufacturer who sends us samples of goods for notice will receive just what the merits of the goods deserve, no more and no less. Any apparatus sent us for trial and notice will be returned if so requested. This department is maintained in the interests of our readers, to whom timely notice of novelties may be valuable.]

A CONCENTRIC LENS.—Messrs Ross & Co., of London, England, have just introduced this new lens, which is made of the Jena glass and is anastigmatic. We have seen some excellent work produced with it. They exercise unusual care in the manufacture of these lenses.

THE PHOTOCHROME ENGRAVING Co. inform us that they have moved to new and larger premises at 162, 164, 166 Leonard St., New York.

S. TRIER & SON.—Manufacturers of card mounts have moved to new quarters at 546 Pearl St., near Broadway, convenient of access to amateurs desiring to use a reliable mount.

A CONVENIENT TRIMMING BOARD —A simple but perfect board for trimming prints has been sent to us by Messrs. E. and H. T. Anthony & Co. If contains a card with printed lines as guides, enclosed in a frame of wood. A glass to cut by is also provided. It is easily operated and is well named, "The Perfection Trimming Board."

THE STUBER DRY PLATE Co., of Louisville, Ky., is now introducing a new plate said to be suitable for any kind of work. Some photographs sent to us taken against the light on these plates were free from halation, which is a good quality.

NOVELTIES IN APPARATUS —We were recently shown by Mr. Arthur Schwarz, of the new firm of Arthur Schwarz & Co., No. 3 East Fourteenth street, a hat camera which is very compact and deceptive. It takes a 3¼ x 4¼ picture, is light and has an ingenious plate-holder. He also showed us a simple instrument for giving photographs distorted effects that are very comical and peculiar. Mr. Schwarz has lately returned, after a two years' absence in Germany, and has secured control, for the United States, Canada and Mexico, of the products of Dr. Andresen, of Berlin, Germany, for photography, such as eikonogen, rodinal and his acid-fixing preparation. E. & H. T. Anthony & Co., of New York, and The Mallinckrodt Chemical Works, of St. Louis, are designated as the trade agents. The new later eikonogen is very pure and active, while the rodinal acts well and gives soft negatives A combination of eikonogen and rodinal we find to be effective in giving brilliancy and density.

“*Index Rerum Photographic,*” *by Dr. John H. Janeway, U. S. A., continued from page 288, vol. iv.*

best uniform work ; and to secure a uniform action of the developer the temperature of the dark room and of all the solutions used should always be about from 66° to 68° F. It is often observed that plates of acknowledged excellent quality, of the same emulsion number and even from the same package or box, do not always give uniform results. Operators are frequently puzzled and vexed by such cases, and find it much easier to find fault with the plate-maker, or to reject a whole package of plates after one or two unsatisfactory results, than to investigate the matter and lay the blame where it belongs. With a warm developer chemical activity is increased, and the intensity of the negative much deepened. When it requires 5 minutes to develop a plate with pyro soda of normal composition at from 52° to 58° F. temperature, the same work can be done in from 2½ to 3 minutes if the thermometric scale stands at from 65° to 68° F., with a perceptible gain of density. At a temperature beyond this, fog is likely to occur with almost any plate, and especially with those of higher sensitiveness, or sensitized for color, with ammonia in the dye. With a developer of a higher temperature than 80° F. the image flashes up suddenly, and no amount of bromide is capable of restraining it properly—that is, if the development has gone beyond a certain point, and the result is a feeble, monotonous and fogged negative. If the temperature of the room and solutions cannot be reduced artificially, it is well to reduce the strength of the developer very much ; but whenever ice is available, it is better and more comfortable to resort to it. For ordinary work the force of any developer can be materially modified by increasing or decreasing its temperature. Over-exposed plates can be well treated with a cold developer, acting, as it does, with less force and without any restrainer ; while under-exposed plates can be better brought out with a warm developer, and details then produced in insufficiently illuminated parts. Plates inclined to fog may be developed with perfect clearness at a low temperature, but fog is almost always present with warm developers with plates of the best quality.

EGYPTIAN PHOTOGRAPHS—Photographs taken on a black background with the assistance of a vignette. Hyatt's magic vignette is said to simplify the process very much.

EIKONÖGEN—Introduced and patented by Dr. Andriessen, of Berlin. Mr. Stebbins, of the New York society, is said to have first suggested it. When first placed on the market in this country, it was a chocolate-colored powder, showing a crystalline formation of small laminæ, but it is now sold in crystalline masses of a light-green color. Has no taste or odor, and is said to be non-poisonous, sparingly soluble in cold water, but more so in hot, forming a solution of bright grass-green color. Chemically, it is said to be an amido β—naphthol β—monosulphonate of sodium. It is claimed for eikonogen that while its developing action is much quicker than either pyro or hydroquinone, it brings out the most perfect detail in the picture, even though a very short exposure has been made. It gives a clear negative of a bluish-black color, and is especially recommended for instantaneous work. It is also said to give excellent results in developing lantern-slides and transparencies. The color of lantern-slides varies according to the strength of the developer, clear bluish-black in the deep shadows graduating down to a beautiful gray in the lighter portions of the plate. With one-half the quantity of the alkali and twice as much water, and if a longer exposure be given, the tone obtained is much warmer and is of an olive-brown or gray color, very soft and pleasing. With bromide paper many experienced workers find that it works much better than the ferrous oxalate, giving a softer effect, and the development can be prolonged without producing the yellow stain which occurs with the ferrous oxalate, and the brown stain produced by prolonged development with hydroquinone—sometimes called by those who favor hydroquinone a warm sepia tone. Others as experienced deny these assertions. Several have complained, who have been using eikonogen, that after a certain length of time, development appears to stop entirely, the image going no farther, and for this reason it is recommended to add a certain portion of hydroquinone to the developer, in order to maintain the action of the eikonogen which has exhausted its power. The idea that eikonogen is not capable of a continuous action, and that development by its means cannot be pushed to its utmost limits, must be a mistaken one. Experiments have been made that apparently show that its powers are not continuous, but it will be found that only a small change in the conditions are needed to produce continuous action. The fault, if there is one, lies in the fact that not enough of the solution has been used. It is a good rule to have the developer fully one-half inch deep upon the plate or print. This assures an ample quantity to produce continuous action. It is somewhat difficult to frame a good theory to account for this method of action, because it does not seem possible that the eikonogen contained in the solution is actually exhausted or materially reduced. The developer in bulk will develop a number of plates with very little reduction of power between the first and the last; but divide the bulk, and each plate receiving only its fractional portion, its development becomes impossible. Careful estimates indicate that this developer, used in liberal quantities, is economical, developing a large number of plates without sensible deterioration. Numerous are the formulæ given for this developer in the various journals of the day. See Developers.

ELEMI—A concrete resinous substance produced by several allied species of trees, chiefly in the tropics, among which are Amyris Elemifera, A. (balsamodendron) Zeilonica. It is used in ointments and plasters, and also in the manufacture of varnish. The crystallized and purified resin of elemi is called elemine.

ELEMENTS OF BEAUTY IN A PICTURE—An artistic picture produced by any process, photographic or otherwise, must contain the elements of beauty. Exactly what these consist of is, however, not easy to define, but the picture must possess inherent grace and repose in its composition, and also a certain artistic balance in its various points of interest. A proper arrangement of light and shade is equally necessary, but above and beyond all these things, if it is devoid of the undefinable something known to artists as "feeling," it will not rank highly as a success. It goes without saying that the more striking parts should be brought out in contrast with the weaker portions, and, finally, that the eye must be satisfied with the effect as a whole, or it will be obliged to move uneasily over the picture, seeking to excuse some inconsistency or unfortunate neglect. The one who is endowed with artistic taste will get on the best, but those who have not this gift need not despair of producing good results. Only the greatest care and assiduity in learning to see properly will enable one to achieve success. Avoid confusion of line or point of equal strength to distract the eye. A "symmetrical irregularity" constitutes a paradox, but it is often the making of a picture. A line of beauty must underlie, at least in general effect, any meritorious and pleasing figure composition. Straight lines may accent its beauty if rightly placed, but beware lest they introduce a discordant note. It is not often necessary, or even desirable, that strongly marked lines should be present, but a careful study of the great works of art, that depend for their charm upon one or more figures, will invariably show sinuous and harmonious graces, as exemplified in the return curve or line of beauty.

ELECTRICAL LIGHT—The incandescent lamp, Edison's 15-candle power, has proved a very satisfactory light to work with in a dark room. Inclosed in ruby or other non-actinic system of glass, or it may be placed in a pasteboard box, the aperture necessary being covered by ruby tissue and post-office paper, or two or three thicknesses of canary or sunflower tint paper, which makes it a very safe light.

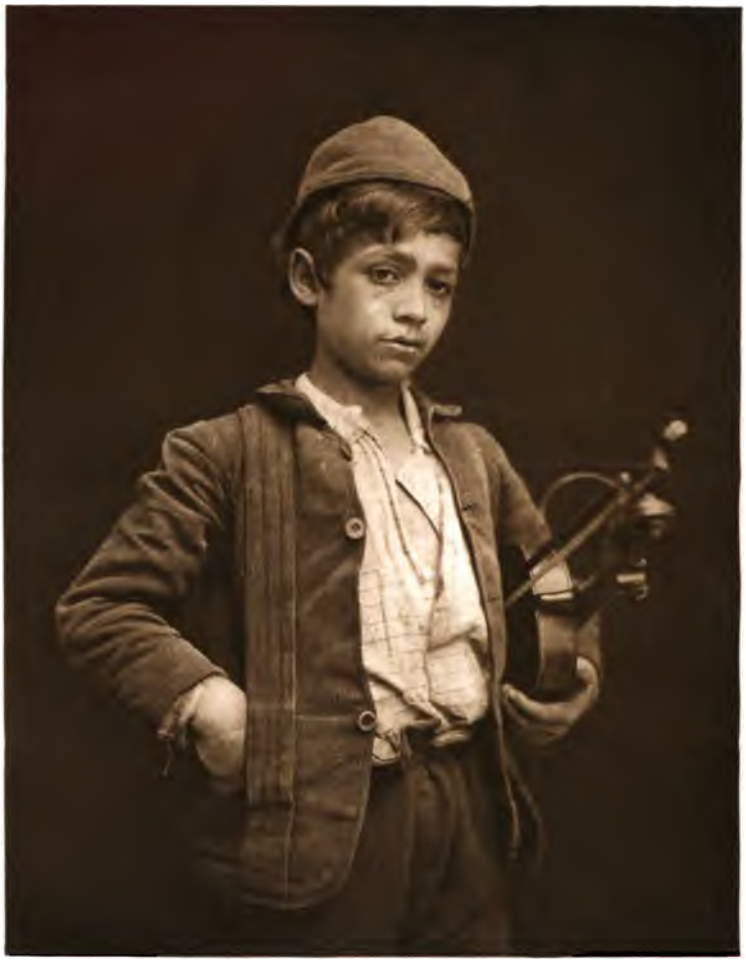
ELECTRICITY AND DEVELOPMENT OF THE PLATE—About the middle of 1888 accounts were received from England of the great utility of electricity as an aid in the development of under-exposed plates. Public experience with electricity was such as to lead many to expect everything from it. "A Mr. F. Green gave a demonstration before an English society, wherein he intended to prove that a fac-simile of a coin could be impressed upon the moist film of a dry plate by the action of a current of electricity passing between the terminals of a battery, one of which was immersed in an acid solution and the other, connected with and rested upon the coin, laid on the film of the plate, the latter being also immersed in the solution. After the current passed for a short time, the coin was removed and the plate put in the developer. Soon a distinct negative image of the coin appeared. The experiment showed that by electric action, and without the aid of light, an impression was made." Experiments were made in this country, and at several places and by different experimenters, with but few results, and those not favorable. One fact was demonstrated by these experiments—that the film, either dry or moist, was a *very* imperfect conductor of electricity; in fact, can be said to be a non-conductor. It may be that Mr. Green's image was produced by the pressure on the film by the coin, and made visible by the developer.

ELECTROTYPING PHOTOGRAPHS—A method of obtaining intaglio plates, whereby the printing plate is obtained by depositing a film of copper upon the photograph, and from this copper electrotype the prints are made. See Wilkinson, "Photo-Engraving," etc.

ELIMINATING HYPO—For this purpose many remedies have been recommended in order to reduce the washing to a minimum consistent with the safety of the plate or print. Eva de Javelle, alum, acetate of lead, hypochlorite of zinc and peroxide of hydrogen, each has its advocates. Probably, if properly handled, the hypochlorite of zinc will give the best results. Still a good washing is required. Professor Burton has recently advised the alternate use of hot and cold water, taking advantage by this method of the tendency to diffusion that exists between fluids of different temperatures. Perfect clearing is required. After the prints are cleared the hypo is poured from the tray, and it is drained till the bath only drops from it. The tray is then filled with warm water, and the prints are removed, one at a time, from it to a second tray full of cold water. The cold water is poured off and is replaced by warm water; they are then removed to a third tray of cold water, and this is poured off and warm water added. The prints go back to the second tray again, filled with cold water; this is drained off and the warm water is added for the third and last time. The prints are now removed, one at a time, to a large tub of cold water. They will float for about five minutes on the surface of this, but at the end of that time will sink singly and very slowly to the bottom. When the last has sunk, the prints may be taken out and dried. The most delicate test will fail to detect any trace of hypo in them.

EMULSIONS—Mechanical mixtures of any sensitive salt of silver, in extremely minute subdivision, held in suspension in an adhesive or sticky vehicle—as gelatine or collodion—when spread upon any transparent medium, will present a perfectly homogeneous appearance when seen by transmitted light. It will be impossible in these papers to give a complete and comprehensive account of the various emulsion processes now known. Several only of these will be mentioned—of different types. For the amateur who desires to make his own dry plate, there are two formulæ that seem to be the best adapted, for many reasons, for his work. The slow emulsion, practically the one proposed by Mr. Debenham and recommended by Dr. Sinclair in his dry-plate making for amateurs. First, it is necessary that the chemicals should be pure; second, the light for almost all the operations should be non-actinic. To make the emulsion, take Nelson's No. 1 gelatine, 20 grains (the ordinary cooking gelatine will not answer); bromide of potash, 15 grains; distilled water, 6 drams. Put the gelatine in a glass and cover it with the water; allow it to soak for ten minutes, then add the bromide of potash and stir it until dissolved. Place the glass containing the bromized gelatine in a basin or dish capable of holding 3 quarts or ½ gallon of water, and pour into the basin water at a temperature of about 120° F., and let the glass containing bromide water and gelatine remain in the warm water till it is dissolved, which will not occupy many minutes. Whilst this is going on, in a 2-ounce graduate make a solution of nitrate of silver, recrystallized, 20 grains; distilled water, 1 ounce. Dissolve by stirring with a glass rod, and place this graduate also in the basin and raise the temperature to that of the bromized gelatine. When the temperatures are the same, pour, in divided doses (5 or 6), the silver solution into the gelatine solution, stirring with a glass rod all the time. A change of color is at once visible, caused by the formation of the yellow bromide of silver. When thoroughly mixed, using as little non-actinic light as is possible to see by, pour the mixed solutions into pyro bottles or stoneware opaque bottles of suitable size, and place it into water at a temperature varying from 130° to 160° F. (test with a thermometer, and do not let the water rise above 160° F.), and keep it at that for two or three hours, or until the blue or sensitive stage is reached. It is well to have two stoppers for the bottle, one to fit tight, and the other with grooves cut in the side, to allow escape of steam from the emulsion; for it will expedite matters if every half-hour the tight cork be plunged in, and shake the emulsion thoroughly for a few minutes. Half an hour before the cooking is done take a hard gelatine, 70 grains, also Nelson's No. 1, 70 grains; put these in a wide-mouth bottle, capable of holding 8 ounces; pour upon it 3 ounces of cold water, and allow it to stand to soak for probably one-half hour, when the water will be nearly all absorbed by the gelatine, which will be much enlarged in bulk. If the emulsion has by this time reached the blue stage — which can be determined by placing a drop or two on a piece of glass and looking through it at a lamp or gaslight — let the water cool down to 100° F., and whilst this is taking place put the bottle containing the swelled gelatine at the same temperature, 100° F., and let it slowly melt. When this is accomplished and the emulsion cooled down to 100° F., pour it upon the softened gelatine, stirring constantly and thoroughly, and then put the bottle in a dark, cool place and leave it to become cold. It will then have acquired the consistency of tough jelly. Technically, it has "set." The thick, tough, jelly-like mass has now to be washed to remove the insensitive and soluble nitrates and bromides, as is done in the following simple manner: Take a piece of canvas known as railway canvas, which can be procured at a shop dealing in worsteds — about eighteen inches square; this must be well soaked in boiling water to remove the size and starch, and then dried; also have ready for use one or two wide-mouth earthenware jugs that will hold a gallon and large enough at the mouth to admit both hands; remove the emulsion from its bottle with a silver or horn spoon, and place it in the centre of the square piece of canvas; gather together the four corners, and holding the neck with the left hand, grasp the lump of emulsion with the right; plunge both hands into the jug containing water at the temperature of 40° F., and twist the canvas till the jelly is forced through the meshes into the water. It is then broken up into small, thin shreds

(To be Continued.)



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An Outing in the Cloud-Lands of Banff.

By Ely Van de Warker, M.D.

IT is not necessary to give any explanation of why I selected the Canadian Pacific Railway as the scene of my outing, but it is worth explaining why I reached the road in the way I did. Naturally any one from the Middle or Eastern States would take the road from Montreal or Toronto. In the settled parts of the Province of Ontario the road follows a pleasant pastoral country, but through the District of Algonea and further west there are many weary miles of rock and forest, with stations no better than lumber camps, which, indeed, they are. Our itinerary completely flanked all this unpleasant feature of the route, while it secured the novelty that exists in primeval forests, lumber camps and man in conditions only partly spoiled by civilization, and seeing it all from the deck of a "drawing-room" steamer. If the reader will examine the map he will observe two outlets from that great lake badly named as Georgian Bay: one rounding the point of the Indian Peninsula, into Lake Huron, and the other, full of uncertain and devious ways, passes northwestward into the forests and islands of Ontario and Algonea, separated from the great lake system to the south by the Island of Manitoulin, the like of which, for indentations, serrations, headlands and bays, is equaled by no other piece of land surrounded by water. There are four hundred and fifty miles of it to the Soo, every hour of daylight full of charming surprises and all the night lost in sweet repose. The map gives but a faint and nearly false idea of this wonderful waterway. Over twenty-seven thousand islands were noted by Commander Wakefield in his survey of this region; but however skilled you may be in figures, you cannot describe scenery by statistics. It is the country of the Indian and the canoe, of game and fish; and every now and then, coming upon you as a surprise, you find relics of old towns, hugging the water's edge as though afraid of the boundless forest beyond, planted by the missionary zeal of the Jesuits two hundred years ago; old block-houses, where the Hudson Bay Company bartered for pelts when New York City was slumbering under its Dutch governors; Indian villages, that this old-time touch of civilization has left in the triumphant barbarism of the forest; long, unbroken stretches of wood and rock and mountain, in all the melancholy of the irreclaimable forest, with no living thing but the eagle and the heron; a region in which you become lost in the many windings of the route, and can fancy the world as it was countless ages ago, when it came from the Hand that modeled this devious way of water. This is known upon the map as the North Channel, and the steamers of the Great Northern Transit Company take you through it almost as on a free pass, so ridiculously small is the price of an excursion ticket.

Now the reader knows why we took the road in the way we did. We simply changed from the Transit Company's steamer to the steamer "Manitoba," at Sault Ste. Marie, which landed us the next day at Port Arthur, almost upon the platform of the Canadian Pacific station. We were not allowed to select this route without an opposition that threatened to establish strained relations with a very friendly and well-informed traveling agent of the Canadian Pacific road. The modern ticket agent is of all men the product of the period. It is said that history always repeats itself, but it does not, so far as this unique individual is concerned. He knows all things that are lawful for man to know about the ways, direct or otherwise, upon the earth, and he expects all people not of the guild to believe him and do as he says. He forms a very poor opinion of your understanding if you prefer ways that are not recognized as those which combine the latest manner of "getting there." A traveling agent has four requisites for a tourist route; namely, a Pullman, a through rail, a sleeper and a hotel car. All these products of modern skill and enterprise were proudly offered me. I timidly suggested that I would like a little favorable advice upon the route I had selected, but I was coldly assured that I could go by way of Europe and the Suez Canal if I wanted to, but it was not the correct way to go. I parted from him with the feeling that I was thrown upon a cold world and repudiated by my natural guardian, but I had my own way, and I doubt if very many ever stepped upon the pier at Victoria who had followed a more devious or delightful route from Syracuse.

Of course, at the "Bridge" I had the usual tilt with Her Majesty's customs officer, in which I came off victorious alongside of a fellow-camerist, who paid twenty-five per cent. duty on his box and ten cents a foot for his plates, simply for the reason that he had but a single ticket, while my round-trip tourist ticket gave ample evidence of my intention of returning my property to "the States." But the Canadian customs officer had the manners of a Chesterfield compared to our inspector, with whom I had the honor to travel from Victoria to Seattle. He insisted on my being an opium smuggler, and assured me that he had had his eye upon me. He turned all my belongings out upon the dirty deck of the steamer, seized my Blair box for duty, wanted to open my Carbutt plates in the light, as he was sure there was opium in the boxes; any way, if they were plates I must pay duty on them, but at last confessed that he did not know whether a home-made product, when returned to the United States, was dutiable or not, and ended by returning my property, helping me pack, and then wanted me to buy him a drink and give him a cigar. All this was done in the centre of a group of half a hundred Chinamen, who seemed tortured with delight at the spectacle, and I half suspect that this feeble-minded customs officer was working on a false tip given by some one among these artful Celestials, whose cerulean robes, I doubt not, were bulging with packages of the slumberous drug.

A steamboat limited train carried us from Toronto to Owen Sound on Georgian Bay, drew up alongside of the steamer, and in half an hour she had cast off and we were watching the receding headlands that unfold in echelon as we steamed over the blue waters of the bay, and form the most remarkable features of the shore line. Before sundown the land was but a vaporous blue over the port side, a lonesome stretch of water with not a sail in sight, into which we saw the sun dip with a dull and cheerless glow, that reminded us that we were already upon northern waters. The next morning we were among the twenty-seven thousand islands of the North Channel. The Soo, as everybody called it, was reached about three o'clock on the second day, when we took the steamer "Manitoba," of the Canadian Pacific line, a splendid iron steamer made and engined at Owen Sound, a piece of handicraft of which our Canadian cousins may well be proud. Just before sundown we ran into a dense fog, so common upon Lake Superior. It is said that misery loves company, but it does not hold true in a fog upon Lake Superior, for it was anything but reassuring to hear answering signals from fog-horns all about us—some near, some far—constantly suggesting an impending collision. I doubt if I could have composed my nerves to sleep that night if a wind, friendly, but cold, had not come out of the north and dispersed the mist. Morning again, and before us were the vast headlands of Thunder Bay. The wind was blowing wretchedly cold, the water was steel blue, the rocks were black, the forests had the dark green of the spruce and hemlock, and altogether combined to give one a homeless sensation with a morbid longing for a fireside. Late in the afternoon the great transcontinental train lumbered into the station. It was fortunate for us that the majority of the great shipload of passengers did not insist upon Pullmans. In fact it appeared to be a difficult problem to settle how the train could hold them. The little town of Port Arthur. or rather Fort William, when we were landed, seemed overrun with people, but in half an hour the crowd was disposed of, the great train forged out of the station and the little town was left to slumber until next steamer day.

THE KAMINISTIQUIA RIVER.

It is difficult to describe the savage, irreclaimable forest through which the line held its way. The Kaministiquia River fretted over the rocks upon one side, and upon the other rocks and stunted evergreens lined the route all day and through the night. We stopped at every station, as there is but one transcontinental train each way, and a letter or two has to be left at the desolate little stations. But the stops were discouraging. Thus, at 19:20 o'clock (9:20 P. M.) we stopped at Upsala, twenty minutes later at Coristad, and in twenty-five minutes again at Bridge River, and so on. Not a living thing in sight—no cross-roads or any evidence of settlement. There are five hundred miles of it, almost, to the gates of Winnipeg. There are no mountains, but plenty of rock-work. The line follows the waterways. After leaving the last-named river we ascend the Mattawan and then the Wabigoon river. Now and then a waterfall or a rift comes into view, and the bits of rock and ragged forest that coil themselves into view as we follow the streams—little studies that would sweetly photograph if one only had the chance—serve to keep one on the watch and help to pass away the time. These streams are said to be navigable, but not so, except as it might be better than going afoot. This is a lake region, and linked together by the rivers, the light boats of the half-breeds can travel hundreds of miles. Now and then we caught a passing view of a lake with bold, rocky shores fringed with evergreens, with flocks of duck hovering over the water. This region would appear to be the breeding ground of the wild duck. At some of the small lakes and sink-holes near the stations, which were covered with duck, some of the credulous young men on the train believed that they could kill them with sticks. In one or two instances I really thought the fellows would succeed, so near was the approach before the game would fly. The trainmen said that they were young ducks and would have a chance to get an education before they reached the States. In the course of the first afternoon I got a very good view on the Kaministiquia, which was my first picture since leaving the Soo. The approach to Port Arthur is very fine for distant photography. The Sleeping Giant and Thunder Cave on one side and Pie Island on the other are very tempting

THE MATTAWAN RIVER.

from the deck of the steamer, but the morning was very thick and I was obliged to resist the temptation. Early on the morning of the second day, just before leaving the valley of the Mattawan, I got another bit of river scenery. These two views, which form the illustrations to this article, were the two instances of the train stopping at points favorable to making an exposure with any credit. I was told that there were some very fine waterfalls on these rivers, but none of them were in view from the railway. Kakabeka Falls, near Fort William, on the Kaministiquia, is one of the finest, with a fall of nearly 150 feet. A fine hotel at the fort was in course of construction, and when completed, a photographer will have all that he requires to open up this interesting region. It is one of the disadvantages of the round-trip tourist on a limited ticket and with time far more limited than the ticket, that he is obliged to leave many very interesting things unseen. It strikes me that some enterprising photographic publisher might do worse things in the publishing line than to compile a directory of scenery. A stranger lets many things of interest pass without knowing it. At Winnipeg, after spending very many hours there, I learned, a few minutes before the train started, that the old gate to Fort Garry, built by the Hudson Bay Company in the last century, was standing and carefully preserved. Ever since it has been a source of regret. In my wanderings about the city I must have been only a short distance from it, and yet missed it. Some things well worth photographing we carried along with us. These were the odd characters among our fellow-travelers. In the colonial sleepers at the head of the train was an odd jumble of men and women. These were packed like sample trunks, two in a berth, and sometimes more where there were children ; and a very happy, unwashed lot they were. The men in the forward end were divided from the women and children by a bulkhead. In addition, they appeared to have all their luggage with them—boxes, bundles, rolls of bed-quilts and feather beds. There were Icelanders, Norwegians and English. I looked in vain for an Irishman. They probably prefer to go to the States and cultivate politics rather than the plains of Manitoba. The head of the train was a favorite place during stops to exercise the hand-camera upon the odd specimens that would venture upon the platform singly or in groups. We afforded them more amusement than they did us, judging from the laughter and loud comments with which they greeted us. One sleeper was reserved for a load of Chinamen returning to the coast under bond, with customs officers in charge. They were only allowed out at eating-stations. There is a solemn mystery in the way the Dominion Government handles the Chinese. They are allowed to land by the thousand at Victoria and Vancouver, but are not allowed to cross into Canada at the "Bridge" or any other eastern point. Nearly all the Chinamen who enter the States come by way of Victoria. There is a standing offer of fifty dollars a man to ship them to the States. It is said—and everybody, so they say, believes it upon the Sound—that if a schooner with a load of half a dozen or so Chinamen which are being carried to the States is hard pressed by a revenue cutter, the cargo is knocked in the head and thrown overboard. It may be that the story was only told to amuse the tourists. Owing to the peculiar eating customs in the dining-car, we were brought in rather close relations with our friends in the colonial sleepers, which seemed a little strange to any one accustomed to the exclusiveness of the vestibule trains in the States. After what may be called the first table, passengers from the colonial sleepers, who were willing to pay the increased price, were allowed in, and if you were late you found yourself in strange company. I found it more amusing than otherwise, and had ample proof that the qualities that go to make up good society—the four hundred, so to speak—were only skin-deep, and consisted largely of soap and water.

Winnipeg is an every-day type of a frontier town that has not yet recovered from a bad boom. We had arranged to stay over a day, but in the usual stop of three hours we found time to secure a very poor dinner and see all that was to be seen. We found boarding the train quite a legal function. All the passengers on the arrival of the train, except on the Pullmans, were turned out with their boxes and bedding, and were not allowed on until the train pulled into the station. Before doing so they were obliged to pass between a file of policemen, who looked them carefully over and punched their tickets. As we were allowed to enter the Pullmans unmolested, we flattered ourselves that the ceremony would not extend to us; but we were mistaken. Soon the servitors in brass buttons appeared at the door, and we were told to show our tickets. As they examined them they carefully looked us over to see if our description punched in the margin of the ticket tallied with that of the owner. From this point on we were constantly reminded that the police had their eye upon us. The reason was the constant vigilance necessary to prevent the introduction of liquors into the Northwest Provinces, as the half-breeds and Indians would be unpleasant neighbors if allowed to procure fire-water. Even on the dining-cars nothing of the kind was sold. In addition to the police of the C. P. R., we found the mounted police at every station. Their uniform was that of the regular English army, with the ridiculous fatigue-cap, too small for the head, and held in a threatening position over the right ear by a strap under the chin. They were difficult to photograph, but I secured one, and reproduce it as one of the choicest products of the camera. He absolutely refused to come out of the station for me, so a lady volunteered to hold the box, as it was hoped that, with the gallantry becoming a true soldier, he would not refuse a lady. But sex made no difference in the modest reluctance of the gentle warrior. The lady sauntered off, pretending to be intent upon other objects, and that artifice also failing, I advised her to give it up, but she declared that she would have his picture if she had to lose the train. The station agent entered into the sport at last and called him out. He was not on to the idea of the drop-shutter. He evidently thought that he could get out of the door and back again before the patient camerist could get him. He made a rush from the door and caught a package from the agent's hand. It was a fatal indiscretion. There were the dull thud of the shutter and a shout from the interested passengers, who were making side bets of cigars on the result of the contest. He seemed to take it in a good-natured way, but evidently could not understand how it was done. I never saw but one of this force engaged in any useful occupation. He was mounted on a cayuse, armed to the teeth with carbine and revolver, his belt stuck full of cartridges, and before him was a docile cow, which he was driving home to be milked.

A CANADIAN MOUNTED POLICEMAN.

Groups of half-breeds, Blackfoot and Cree Indians were gathered about the larger stations. The women had a few things, of Indian manufacture, to sell, and the men stood by with their hands in their pockets, lords of creation, as usual. What a masterful and lordly thing it is to have nothing to do! The Indians here will fight rather than pose for their pictures. One raggedly picturesque specimen, who was asked by a lady to stand for his picture, caught hold of her very roughly and called her a bad squaw. The Indian of the Northwest, under the benign rule of the Hudson Bay

Company, was a very contented individual; but the Company has ceased to rule. The glory of the half-breed is gone, and likewise the dominion of the squaw-man. Under the Company he was master. Canada used to point with pride to her contented Indian population under what was called her policy. As a matter of fact, Canada never had a policy. The Indian was the ward of the great Company, who ruled him through his affections, in which matrimony of a certain kind played the part of peacemaker. What white men there were were the brothers-in-law of almost every Indian, and the occasional wars never extended beyond the so-called domestic circle. A sleepy contentment brooded over the land from the International line to the Arctic. When the title of the Company was bought out and the Government attempted something like a policy, the frightful half-breed war was the result, and the net outcome is about one policeman to five Indians, including squaws. Some of the half-breed squaws were very pretty. I caught the picture of one with her baby. She was young and plump. The aboriginal color was diluted to that peachy brown that toned in perfectly with the red in her cheeks, laid on with Nature's own lavish hand. Her eyes were large, luminous and brown, like those of some wild animal thoroughly tamed, and as she smiled in answer to the compliments the men gave her, she displayed a set of teeth as white and even as though made to order. Some white man had adorned

HALF-BREED SQUAW AND INFANT.

her with cheap jewelry, and her pride and contentment were without bounds. It was a great relief to pass out of the region of rock and stunted forest, and find our horizon bounded only by the sky-line of the illimitable prairie. How gladly we would have changed back again after the novelty had worn off ! These plains of Manitoba are the most wonderful of their kind anywhere upon the earth, and we cannot pass them without a description.

(To be continued.)

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The Boston Fifth Annual Joint Exhibition.*

BY MISS CATHARINE WEED BARNES.

COMING next to the foreign exhibits, several familiar names are not seen, but those who did contribute, supplied examples of unusual merit. In commenting on these was noticed :

Mr. Adam Diston (38–43), Leven, Fife, Scotland. His work was as good as it always is, and could be studied with advantage and confusion of face by those amateurs who believe in luck. Mr. Lyddell Sawyer (44–55), Singleton House, Newcastle, England. His pictures were remarkable pieces of work, and all platinotypes. He received a well-deserved medal. Mr. Clement Williams (56–59), F. R. I. B. A., Halifax, England, also received a medal for carbon marine views, which always had a number of visitors, so greatly were they admired. The peculiar green tint of the prints enhanced their beauty.

Mr. F. Dundas Todd (60–61), Edinburgh, also received a medal on the two pictures called "Baiting the Lines" and "The Village Smithy." Original posing and lighting were his special features. Mr. Ralph Traun Fretwell (361–363), of Dortmund, Germany, sent landscapes in the Black Forest that were well done, and printed on aristo paper. Mr. Victor Angerer (407), Vienna, Austria, showed a nearly life-size figure entitled "Hungarian Tinker." It was a remarkable exhibit of a very difficult piece of work.

Mr. J. H. Harvey (578), Victoria, East Melbourne, Australia, sent five architectural views on bromide paper, of good technical excellence. Mr. Hamilton Emmons (93–99), England, received a medal for his peculiar Egyptian views. The printing was not of the best quality. Mr. Arthur R. Dresser (592–597), Kent, England, had enlargements on rough bromide paper, which, it seemed to us, was better adapted to views with less detail, as the granular effect was very apparent. They received a medal.

Mr. I. W. Evans (632–633), of Wolverhampton, England, was medaled on account of the excellence of his instantaneous figure studies. Mr. S.

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*Continued from page 263.

Francis Clarke (619–625), L. W. S., England, showed a series of Shakespeare's "Seven Ages of Man," which were dramatically represented and well executed. Mr. C. Court Cole (584–586), England, sent architectural and cathedral studies noted for their remarkable evenness in lighting and detail; they in no way fell below his reputation. They received a diploma.

Mr. Martin J. Harding (604–606), England, contributed, as usual, good examples of rapid landscape work. He received a diploma. Mr. Louis Meldon, of Dublin, Ireland, sent five examples of instantaneous work. Mr. Harry Symonds, of Portsmouth, England, had a series of yacht-racing scenes that were up to his usual standard.

Mr. F. R. Pineiro (598–603), Paris, France, showed several character studies, of which 603 was the best. Mr. Joseph Chamberlain's (580), of Tunbridge Wells, England, exhibit embraced one frame of Egyptian studies of special merit.

Turning our attention to those exhibitors not connected with either of the three societies, and members or non-members of other organizations, we note in Miss Emma Fitz's frame (583), Boston, her child studies as being the best, while the portraits in frame 352, by Miss F. Russell, of Boston, showed promising results. Miss E. L. Coleman (483–492), Boston, received a diploma. She showed good landscapes and portraits, although some were a trifle over-exposed.

Mrs. Sarah Sears (579), of Boston, exhibited a frame of portraits printed in carbon, of fair merit. Miss Helen M. Murdock, of Roxbury, Mass., in three frames, had a number of snap-shot pictures. In one was an enlargement of an eclipse of the moon. Miss Alice G. Chandler (125–126), Lancaster, Mass., showed a number of landscapes which, as a whole, appeared as if the negatives were undertimed, as the contrasts were too strong.

Miss Rosamond W. Silsbee, of Dorchester, Mass., sent an enlargement, called "The Coquette," that was attractive. Miss Sarah J. Eddy's (345–346), of Providence, R. I., pictures well deserved the diploma which they received, and were exceedingly well done, showing considerable variety as to subject. Mr. Edward H. Lincoln (495–496), Cambridgeport, Mass., showed exceedingly good work, especially in the interiors.

Mr. Howard R. Barton (62–64), of Boston, and Technology Photographic Society, had some well-executed waterfall views, taken in New Jersey. Mr. Henry R. Hallett (185–188), of Brookline, Mass., sent four pictures of old Massachusetts historical houses.

Three members of the New York Camera Club sent excellent work. Mr. William A. Fraser (191–194) received a diploma, which his flower studies decidedly deserved. He seems to be the most successful of any of the workers in this particular branch. Mr. Edw. H. Graves (476–480). His pictures certainly deserved some award, and we regret that they did not receive it. Mr. James L. Breese (202–205), who received a diploma, sent good examples of the rarely attempted but beautiful line of carbon work. They were somewhat over-retouched, but the posing and lighting of the portraits were very artistic.

Mrs. James Osborne Wright (255–262), New York, sent good examples of snap-shot work which, it seems, would have borne enlargement. Her work was rewarded with a diploma. Mr. John H. Tarbell's (148–155) best work were his Canadian studies, some of which have been reproduced in THE AMERICAN AMATEUR PHOTOGRAPHER. Mr. Geo. J. Stengel (497–500), of the Yonkers Photographic Club, showed some still-life studies which were very well done.

Mr. John W. Alexander (144–147), of Yonkers, N. Y., had platinotype prints of original studies, and was awarded a diploma. Mr. Geo. A. Nelson (607–611), of the Lowell Camera Club, exhibited his original figure studies, and received a diploma, as did Mr. William H. Dodge (156–159), of Lowell, for work that covered artistic landscapes.

Mr. John E. Dumont (501–509), of the Rochester Camera Club, showed examples of work, several of which have already received awards in previous exhibitions. He received a diploma. His work, as a whole, was somewhat strained in comparison with his former efforts. His "Listening to the Birds" attracted attention. Mr. Robert E. M. Bain (510), of St. Louis, Mo., exhibited an interesting frame of figures and landscapes; the latter, with a few exceptions, were rather the better of the two.

Eight members of the Mystic Camera Club, at Medford, Mass., sent exhibits covering a variety of subjects, mostly of a marine character, of even merit.

There were three exhibitors of transparencies, one from each society. Those by Mr. Wilfred A. French, of the Boston club, were of the best quality; those next in value were "The New Slipper" and "A Brotherly Attention," by Mr. Clarence B. Moore, of Philadelphia. Mr. Robert L. Bracklow, of the New York Society of Amateur Photographers, sent seven transparencies of good average quality, which were made by the aid of the electric light.

In lantern-slides there were twelve exhibitors. Mr. O. A. Eames, of the Boston club, sent twelve; Dr. Charles L. Mitchell, of Philadelphia, sent twenty-six, mostly of Norway scenery; Mr. Robert S. Redfield sent twelve, mostly like those he had at the New York 1891 exhibition. Of members of the New York society, Miss Elizabeth A. Slade, of New York, sent twelve Holland slides; Miss Emilie V. Clarkson, twelve, on which she secured a diploma; Mr. Alfred Stieglitz, thirty-two, including many of his figure and group studies and foreign scenery; Miss C. W. Barnes, eighteen; Mr. H. A. Latimer, of the Boston Camera Club, thirty; Mr. John W. Dunn, of the St. Louis Camera Club, fourteen (mostly of Western scenery); Mr. William M. Butler, of the same club, thirteen, covering a variety of subjects. The foreign exhibitors of slides were Mrs. S. F. Clark, of Louth, England, who sent twelve, and Mr. Edgar G. Lee, of Newcastle-on-Tyne, England, who contributed twelve. No arrangement was provided for the display of the slides by daylight. They were shown in the lantern for half an hour each evening, in one of the small rooms in the extension of the art gallery, through a small paper screen surrounded by curtains, and the screen being hung loose, swayed to such an extent as to seriously interfere with the sharpness of the pictures projected upon it.

On two evenings the slides of the London Lantern Society and "*Photography*" prize slides, loaned by the manager of the American Lantern Slide Interchange, were shown. Altogether, the slide exhibit was not as extensive or as varied as that of the previous year at New York. But there were many choice slides of artistic and interesting subjects by new workers, which bids fair to improve the quality at the next exhibition. Mr. Edgar G. Lee is an artist as well as a skilled expert in dry-plate slide-making, and had there been a special diploma issued for slides, he would doubtless have secured one.

It should be stated, owing to the enlargement of the art galleries since the exhibition of 1888, the club was accommodated with three rooms instead of one at that time, and consequently was able to have the exhibits hung to much better advantage.

Statistics of the exhibition show that there were fifteen women exhibitors, five of whom received diplomas; there were thirty-two exhibitors from the Boston Camera Club, five of whom secured medals, and ten diplomas; there were twenty-one exhibitors from the Society of Amateur Photographers, one of whom secured a medal, and five diplomas; three exhibitors from the New York Camera Club, two of whom secured diplomas; eleven exhibitors from the Photographic Society of Philadelphia, one of whom secured a medal, and four diplomas. There were twenty foreign exhibitors, five of whom were awarded medals, and three diplomas.

In addition to these, there were thirty-seven miscellaneous exhibitors, representing the Providence, Lowell, St. Louis, Yonkers and Mystic Camera clubs, and several not connected with any club. An extra diploma was awarded to Mr. C. Howard Walker for designing the accepted diploma. Concerning developers employed, the catalogue shows that 76 exhibitors, as against 87 last year, preferred pyro, which thus still leads; 23 hydroquinone, as against 21 in 1891; 14 combined hydroquinone and eikonogen; 14 eikonogen, as compared with 21 last year; but if the 14 hydro and eiko are added, a total of 28 is shown in favor of eikonogen, or nearly one-third of the number of those using pyro.

In the alkalies, as compared with those of 1891, we find carbonate of soda still leads, 44 exhibitors preferring it to 58 in 1891; carbonate of potash, 31 to 24 last year; ammonia, 15 to 21 in 1891; ferrous oxalate, 5 as against 7.

All intelligent observers of the tendency of these annual exhibitions note the advance that is being made in showing the possibilities of the camera, when in the hands of persons imbued with artistic instincts, as a means of producing pictures equal to those made by the brush. Americans are rapidly catching the spirit and genius of the artistic foreign workers, and it will not be long before many awards will be kept here.

The general conduct of the exhibitions is now so careful and conscientious that they are each year receiving more and more attention. In our May number we gave the list of awards. In the exhibition at Philadelphia next year we anticipate seeing a splendid exhibit, and we have no doubt but what the grouping, hanging and arrangement of the pictures will be systematic, artistic and appropriate, since the public art galleries that will be used provide ample space.

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Relative Exposures for Varying Proportions of Image to the Original.*

By W. E. DEBENHAM.

WHEN an enlarged photograph has to be made either from a negative or print, it is commonly understood that the greater the degree of enlargement, the longer will be the exposure required, but I have generally found only the vaguest ideas to exist as to the amount by which such exposure has to be prolonged. Sometimes, indeed, it is assumed that the exposure will be in direct inverse proportion to the area covered, so that a copy of twice the linear dimensions of the original—covering, as it does, an area four times the size—would require an exposure of four times that sufficing for a copy of the same size. This calculation, however, omits to recognize an important factor, and leads to serious error, the actual exposure required in the case mentioned (assuming the same lens and stop to be used) being not four times, but two and a quarter times that of a copy of same size; whilst, when we come to high degrees of enlargement, the error would amount to an indication of nearly four times the exposure actually required.

To find the relative exposure, add one to the number of times that the length of the original is contained in the length of the image, and square the sum. This will give the figure found in the third column of the annexed table:

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* Communication to the Photographic Society of Great Britain.

Proportion of image to original (linear).	Distance of image from lens* in terms of principal focus.	Proportionate exposures.	Exposures proportioned to that required for copying same size.
$\frac{1}{30}$	$1\frac{1}{30}$	1.07	.27
$\frac{1}{20}$	$1\frac{1}{20}$	1.10	.28
$\frac{1}{10}$	$1\frac{1}{10}$	1.21	.3
$\frac{1}{8}$	$1\frac{1}{8}$	1.27	.31
$\frac{1}{6}$	$1\frac{1}{6}$	1.36	.34
$\frac{1}{4}$	$1\frac{1}{4}$	1.56	.39
$\frac{1}{2}$	$1\frac{1}{2}$	2.25	.56
$\frac{3}{4}$	$1\frac{3}{4}$	3.06	.76
1 (same size.)	2	4	1
2	3	9	2.25
3	4	16	4
4	5	25	6.25
5	6	36	9
6	7	49	12.25
7	8	64	16
8	9	81	20.25
9	10	100	25
10	11	121	30 25
11	12	144	36
12	13	169	42.25
13	14	196	49
14	15	225	56.25
15	16	256	64
16	17	289	72.25
17	18	324	81
18	19	361	90.25
19	20	400	100
20	21	441	110 25
21	22	484	121
22	23	529	132.25
23	24	576	144
24	25	625	156.25
25	26	676	169
26	27	729	182.25
27	28	784	196
28	29	841	210.25
29	30	900	225
30	31	961	240.25

* With a double lens it is usually sufficient to measure from the position of the diaphragm plate.

As examples: Suppose a copy is wanted having twice the linear dimensions of the original. Take the number 2, add 1 to it, and square the sum, $3^2 = 9$. Again, if a copy is to be of eight times the linear dimensions of the original, take the number 8, add 1, and square the sum, $9^2 = 81$. Copies respectively twice and eight times the size (linear) of the original will thus require relative exposures of 9 and 81, *i. e.*, the latter will require nine times the exposure of the former.

It is convenient to have a practical standard for unity. An image of the same size as the original is a familiar case, and serves as such standard. By dividing the figures in the third column by four, we get at the figures in the last column, which represent the exposure required for varying degrees of enlargement or reduction, compared with the exposure for a copy of the same size.

The table is carried up to enlargements of thirty diameters; that is about the amount required for enlarging a small *carte de visite* to life size.

The exposures required in reductions do not vary at all to the same extent that they do in enlargements. It has, therefore, not been thought necessary to fill in the steps between images of $\frac{1}{10}$ and $\frac{1}{20}$, and between $\frac{1}{20}$ and $\frac{1}{30}$ of the size of the original. Beyond $\frac{1}{30}$ there is scarcely any perceptible difference in the exposure until disturbance comes in from another cause, a considerable distance of illuminated atmosphere (haze or fog) intervening.

The figures in the second column will also serve as a table for distances from the lens to the plate and to the original, all that is necessary being to multiply by the principal focus of the lens in use. In the case of enlargements the figure less than 2 must be multiplied to get the distance from the original to the lens, and the figures greater than 2 for the distance from lens to image. For reductions, the figures less than 2 multiplied by the principal focus of the lens yield the distance from lens to plate; and the figures higher than 2 similarly multiplied give the distance of original from lens.

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Reproducing Photographs in Colors.

DURING this Spring Mr. Fred. E. Ives, of Philadelphia, went to England to demonstrate before the Society of Arts and other scientific bodies his process of composite heliochromy, or the reproduction of photographs in colors.

In the *Journal of the Society of Arts,* which he kindly sent us, we find a copy of the paper which he read, and the discussion thereon by members. He bases his discovery on the Young-Helmholz theory of color-vision, which substantially holds that there are three kinds of nerve-fibres in the eye, of particular sensitiveness to certain colors—one kind is sensitive to red, another to green, and another to violet. If all of the three kinds of nerve-fibres are equally strongly excited, the impression of white light results. Following out this theory, Mr. Ives endeavored to photograph natural objects with three separate plates, each one of which would represent relatively to the greatest extent, respectively, one of the three colors; and successfully obtained, by means of orthochromatic plates and color-screens, negatives in which the details in red objects were fully brought out; the same with objects green or yellow, and also those in which blue and violet predominated.

Having secured these isochromatic negatives, the next point was to reproduce positive images which would represent to the eye the colors as seen in nature.

He first obtained the desired result by putting three lantern transparencies, made from each of the separate negatives, in an optical lantern having three objectives of equal focus, the illuminant being either sunlight or electric light, and superposing each image over the other on the screen. Each objective had interposed between it and the lantern-slide a colored film of gelatine to correspond with the color of the original plate it was intended to represent, or a red, green or blue. The different colored lights thus combined over each other on the screen produced white light and gave the color shadings to the various portions of the picture, which to the eye appeared more brilliant and delicate than it is possible to obtain in the ordinary way.

This method required the nicest mechanical adjustment, but it was shown to be a practical way to secure colored photographs of a very pleasing character, and only needed improved apparatus to make it more feasible.

Further experiment enabled Mr. Ives to devise more simple apparatus for taking the original pictures, and also for more accurately reproducing them in the optical lantern. He now employs a small camera fitted with three matched lenses of equal focus, in a row adjacent to each other, which project three separate images on one screen, similar in idea to the well-known fereotype camera having four lenses. He uses one orthochromatic sensitive plate, but varies the action of the light by diminishing or enlarging the size of the stop and interposing between the lens and plate delicate colored screens. The right color of these screens is determined by experiment.

Thus on one film the variable exposures are all developed as a unit relatively to the light action. From the combination negative, slides are made by contact, suitable for projection in the triple lantern, or by means of the Woodbury photo-mechanical process colored prints are made suitable to be inserted in an instrument called the helio-chromoscope. The prints are made from the triple negative, and then dyed or colored with the respective colors. In practice he has found a coal-tar dye called "thin blue A" to absorb those rays which excite the fundamental red sensation, another dye called "fuchsine" makes a print represent the green sensation, and an aniline yellow the print for the blue violet sensation. These colored prints, when finished, are mounted and put into an instrument termed a helio-chromoscope, constructed to optically recombine the triple black-and-white photograph into a single photograph similar to a stereoscopic photograph, reproducing the natural colors.

The instrument consists of several small mirrors, two of them transparent, placed at certain angles with reference to the photograph and inclosed in a box. These combine the three pictures, by reflection and refraction, with the different colors blended and produce one single-colored picture. Mr. Ives finds that the colors are somewhat degraded unless a spectrum of light, made up of only the red, green and blue rays, is used to illuminate the print. He thinks the only true value can be obtained by projection in the lantern and superposing the images on the screen.

In the discussion following the reading of his paper, the chairman thought, while Mr. Ives had given half a loaf, so to speak, toward the accomplishment of photography in colors, he had shown some very beautiful results and had explained the means by which they were brought about in a concise and clear manner. Professor Roberts-Austen appreciated the peculiar and ingenious construction of Mr. Ives's camera for taking the photographs, and having visited Yellowstone Park was surprised at the extraordinary fidelity with which the marvelous color effects there seen had been reproduced. Mr. B. Francis Cobb thought Mr. Ives was opening a way to what in future might lead to very great results. Sir Henry Trueman Wood remarked that a great deal of credit was due to Mr. Ives for the extreme ingenuity with which he had rendered practically useful a method which had been in the minds of a great many people for a long time, and which had been accomplished, with a varying amount of success, by previous experimenters. The practical application of it had yet to be seen, though it was not difficult to see that it had many possibilities of usefulness.

The unanimous expressions of approval of his new system, and the vote of thanks that were accorded him by the society, will undoubtedly be a source of encouragement to Mr. Ives in continuing his experiments in this interesting field. Having found a practical method of combining the light rays for color production, there will only need to be greater perfection made in apparatus to still further simplify and improve it. We congratulate him in having such a cordial reception in a foreign country.

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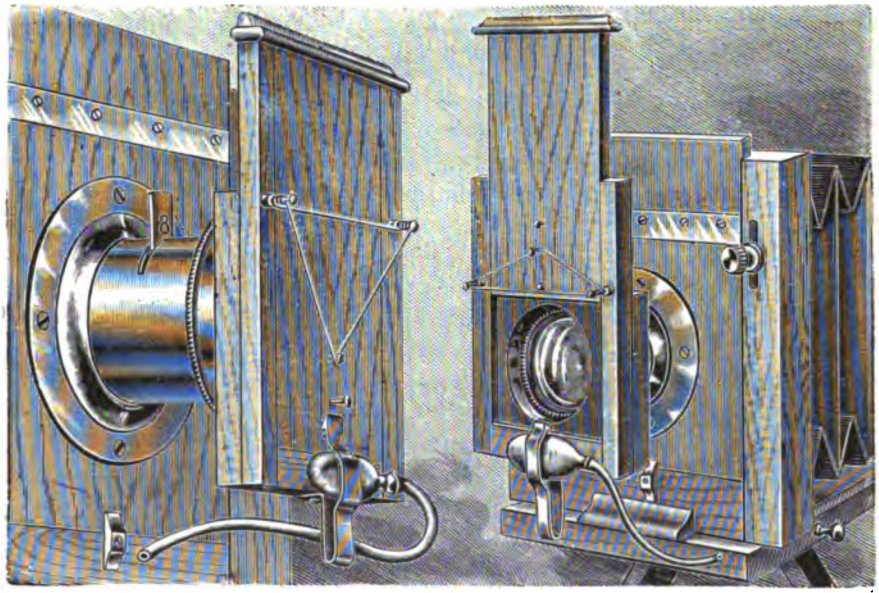
A Simple Camera Shutter.

IT would be difficult to say who invented the simple shutter shown in the annexed engraving. It has been made and used by amateur photographists, and seems to answer the purpose very well indeed. Although it is crude when compared with some of the perfected shutters, the results secured by it are not inferior to those of better instruments.

The block forming the support for the working parts is bored to receive the outer end of the camera tube. To this are attached two grooved uprights and a cleat extending across the block at its lower edge. To the grooves of the uprights is fitted the shutter, which consists of a piece of thin board blackened on its inner surface, and provided on its outer surface with three escutcheon pins, all arranged on the median line of the shutter. The lower pin, which is without a head, is engaged by a spring catch. The second pin projects the farthest, while the third projects only a short distance. In each grooved side strip is inserted a pin, which projects some distance from the surface of the strip. An ordinary rubber band is stretched around these pins, and the outer strand is wound several times around each pin, to separate it from the inner strand. The spring catch, which is attached to the bottom of the block, is bent outwardly to permit of placing under it a small pneumatic bulb similar to those used on pen-fillers. With the bulb is connected a flexible rubber tube, having on its free end a larger bulb, by means of which the smaller bulb is inflated when the shutter is to be released.

In another form of the shutter an ordinary hook is used in lieu of the spring and pneumatic bulb. The shutter is held normally in a closed position by the spring catch, which engages the lower pin.



A SIMPLE SHUTTER.

To prepare the shutter for operation, the outer strand of the rubber band is placed around the upper and shorter pin, as shown in the left hand figure. When the exposure is to be made, the shutter is operated by compressing the large bulb, which inflates the smaller bulb, thus pressing outwardly the spring catch and disconnecting it from the pin. The elasticity of the rubber band forces the shutter upward until the pin passes above the inner strand of the rubber band. The momentum of the shutter carries it upward, and bringing the longer pin into engagement with the inner strand of the rubber band, stretches the band, as shown in the right hand figure, thus arresting the movement of the shutter and storing power for closing it. The elasticity of the inner strand of the rubber band is sufficient to cause the shutter to drop quickly and regain its original position. —*Scientific American.*

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Editorial Comment.

Our Illustration.—We present with this number an attractive figure study which won a diploma at the Boston Fifth Annual Joint Exhibition, by Mr. John C. Lee, a member of the Boston Camera Club.

The natural pose of the lad, the soft, equal lighting of the face, the fullness of detail and the clearness of the picture all go towards making it a most interesting study. Mr. Lee is to be congratulated on his success. In reply to our inquiry as to what he used in making the picture, he says, the negative was taken with a No. 3 Euryscope lens on a Cramer plate and developed with pyro-ammonia.

Our Anniversary.—With the June number, the third year of our existence as a magazine, conducted independent of trade interests, was completed, and how well we have satisfied the interests of amateurs is attested by our increased circulation and the general improvement in and quality of the magazine.

We shall hope to make further improvements in the future and to increase the size of the magazine by additional pages of reading matter. We desire to represent as far as possible American thought, on all phases of photography, to record researches in this line by Americans, and put it in readable shape.

In beginning our fourth year with this number, we are confident of retaining the support of our many readers, and feel assured the same will be merited by the treasures we have in store for them. Our past record is an earnest of what is to come. The rapid growth and extension of amateur photography demands a representative organ to especially encourage it and record events, and the success of our enterprise thus far is due to the liberal support we have received from the amateurs. Much has been done and much more can be done by way of improving their thought and condition; we shall do what is possible towards that end.

Should you have a friend interested in the art, could you not induce him or her to examine our magazine with a view towards a subscription,—(but $2 a year, specimen copies will be sent on application,) and thus greatly advance the cause?

The World's Fair Photographic Privileges.—It has been very gratifying to note the continued interest that is being shown on this subject by the various photographic organizations, and the press. There is no doubt of a strong desire on the part of the majority of amateurs that they are entitled days, would or could not give but little time to the art, but would appreciate the opportunity of a few exposures or souvenirs of the World's Fair.

The sentiment of the meeting was fully in accord with the proposition that all amateurs should be accorded the right of using a 4 x 5 camera *without tripod*,* free from a license of any kind, as that size of negative could not in any way interfere with the commercial photographs that would be made by parties purchasing the right of photographs from the management. It would seem that no valid objection can be held against amateurs having the right of using hand-cameras, whilst much may be said against the use of the tripod, in a possibly crowded exhibition, by persons who would hold the right to their use by virtue of being licensed for the time being.

Yours truly,
Syracuse, N. Y. AMOS PADGHAM, *President Syracuse Camera Club.*
June 13, 1892.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

The president signs the inclosed petition with pleasure, and this club is in full sympathy with the movement, the subject having come up at our last meeting, prior to receipt of your letter. There is no reason why the American public should be debarred from photographing such portions of the World's Fair as each sees fit. It is an affair by the people and for the people, and to dispose of the right as a whole, to be let out in piecemeal at an exorbitant increase, is contrary to the principle of equality of the American nation.

Worcester, Mass. Yours very truly,
June 13, 1892. ALBERT H. CHAFFEE, *Secretary Worcester Camera Club.*

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

I have taken the liberty of signing our president's name to the inclosed petition, as he is away on an extended trip. The club, as well as president, are all strongly in favor of it and hope it will be allowed.

Yours truly,
Toledo, O. M. A. MARTIN, *Secretary Toledo Camera Club.*
June 24, 1892.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

Your efforts towards securing larger privileges for the amateur photographer at the World's Fair receives my cordial support. When I noticed in your magazine the agitation of this World's Fair photo privilege for the amateur, I set about doing what little I could towards furthering the scheme.

I hope every paper will take up this subject and push it with all possible energy.

It has occurred to me that in case the Ways and Means Committee should decline to grant the privileges asked, after the numerously-signed petitions are received, to request all photographic clubs in the United States to appeal to their respective representatives in Congress to agitate this matter in Washington, and in case this should fail, to bring the matter before the President, who no doubt would recognize the advisability to do something, especially so, as we are to go through an active campaign where every vote counts.

When one stops to consider how many plates and films will be exposed if the amateur is allowed to photograph at the Fair, amounting in the millions (say 100,000 amateurs at 30 plates each—3,000,000), the lantern-slides made from the negatives, the benefits derived when these slides make the circuit of the different slide interchanges, where people can really see how great the Fair was, forming thereafter a most interesting memento, as well as showing to others on canvas the many views which they did not have a chance to see, and the benefit accruing to the workingman, manufacturer, etc., which will amount to millions of dollars by the enormous consumption of plates and materials, the thousands of new outfits that will be bought, as well as plates, films, slides and other photo paraphernalia, the advisability of permitting general or free photography at the Fair becomes apparent to every one.

The arguments are many to be advanced to push this scheme through, and I cannot but think some benefits will yet be accorded to the amateur photographer.

Yours in the interest of photography,
F. A. MUENCH, President, Hoboken Camera Club.
Hoboken, N. J., June 24, 1892.

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Recent Exhibitions.

EXHIBITION OF PHOTOGRAPHS BY THE TORONTO CAMERA CLUB.

The members of the Toronto Camera Club are to be congratulated on the success of their first exhibition, which opened on May 18th and continued one week. Over three hundred pictures were exhibited, and they included many splendid samples of the photographic art. Mr. A. W. Croil's portrait of Mrs. F. C. Moffatt was beautifully done and well deserved the prize it received. His work was principally bromides, while Mr. F. D. Manchee, whose pictures were excellent, had a preference for the warmer tones of silver prints. Some fine views of Muskoka were contributed by Mr. W. B. McMurrich. An admirably-arranged picture was Mr. G. H. Gooderham's group, "On the Oriole," which was also both sharp and clear. Mr. T. Langton had a large collection of platinotypes, including an excellent portrait of the Hon. Oliver Mowat. Dr. W. H. Ellis also showed a number of exceedingly fine platinotypes, and was successful in being awarded the prize for the best general work. Mr. Hugh Neilson exhibited his beautiful picture "Indian Summer in the Don Valley," which, having won first prize before, was no; eligible for competition. The judges, Sir Daniel Wilson, Mr. J. Fraser Bryce and Mr. J. T. Rolph awarded the prizes as follows: Class A—Amateur work throughout—Landscape, L. W. Croil; marine, F. D. Manchee; architectural, A. W. Croil; interior, A. W. Croil; group, R. G. Muntz; lantern slide, H. English; enlargements, A. W. Croil. Class B—Professional printing; negatives only by amateurs—Landscape, F. D. Manchee; marine, E. H. Walsh; architectural, E. H. Walsh; interior, G. S. C. Bethune; portrait, A. W. Croil; group, G. H. Gooderham. Special—Best work on cramer plate, F. D. Manchee. Best work on iso-chromatic plate, H. English. Best work on Starr plate, R. G. Muntz. Best work on Stanley plate, 1, G. H. Gooderham; 2, T. Langton; 3, J. G. Ridout. Best general work, W. H. Ellis.

EXHIBITION OF PHOTOGRAPHS BY THE BURLINGTON CAMERA AND SKETCH CLUB.

The exhibit of the Burlington Camera and Sketch Club, held on the afternoon and evening of May 27th at the club-rooms, at the corner of Fourth and Jefferson streets, proved the greatest kind of a success. The walls of the handsome club parlors were hung with scores upon scores of triumphs of the camera, kodak, pencil and brush. The large workroom of the club was neatly transformed into a lecture room of ample seating capacity. The guests were conducted first into the parlors, and then wandered at their will to view the pictures. In the line of photographs there was the greatest variety, kodak pictures of all sizes and shapes, groups, landscapes and bromide enlargements. The range of subjects was equally extended, for the visitor was suddenly translated from Cuba to Alaska and various intermediate points with delightful inconsequence. A little group of "bits" in oils on the west wall attracted considerable notice. They were the work of Mr. Carl Vogt, and included "An October Sunset," "The Wishing Gate," sketches from Faust, some familiar landscapes and two interesting interiors. Mr. F. M. Fultz has a large collection of Alaska views (kodak work), and, besides, a large number of groups, buildings and landscapes done with the camera. Mr. George H. Washburn exhibited a fine collection of "interiors," besides local bits of scenic beauty. Mr. E. L. Parsons probably made the largest exhibit, for the most part the fruit of his recent Florida and Cuban tour. The pictures excited great admiration. Mr. W. W. Woolen, Mr. A. Freeman and Mr. J. W. Augutta made interesting exhibits of landscape and street views, which always had an eager group of visitors before them

The lantern exhibition, under the direction of Rev. Carl Kurtz, followed, and was greatly enjoyed. The views shown were of local scenes, the slides being the work of members of the club.—*Burlington Hawkeye.*

SIXTH ANNUAL EXHIBITION OF THE PITTSBURGH AMATEUR PHOTOGRAPHERS' SOCIETY.

The exhibition was held on May 10th, 11th and 12th, at the Academy of Science and Art. The following detailed account we glean from the *Pittsburgh (Pa.) Bulletin.* The collection, as a whole, photographically and artistically considered, was probably the best ever shown here, and was another evidence of the growing interest in amateur photography. Naturally, the award of prizes was the feature of interest. The judges, Mr. John W. Beatty and Mr. S. M. Robinson, decided the awards after mature deliberation and to the satisfaction of patrons and exhibitors. The Darlington gold medal, the annual gift of Mrs. S. A. Ammon to the exhibitor of the most artistic composition picture, went to Mr. C. C. Craft of Crafton, for his "Counting the Chickens Before They are Hatched." His only competitor was Mr. W. S. Clow, whose "82 in the Sun" was in close competition, and most artistically composed. Mr. Craft was the fortunate winner of this same medal last year. The W. S. Bell gold medal, offered for the best transparency, was captured by Mr. Fred Neeb, whose picture was an 8x10 view of the lake in the Allegheny parks. The Horace R. Moorhead cash prize of $25 for the best general exhibit, was awarded to Mr. W. S. Clow, to whom a second honor came that day in a telegram from Boston announcing that in the joint exhibition, just held, of work submitted from New York, Boston and Philadelphia, he had been awarded a diploma. His display of platinotypes was considered very fine. Mr. John W. Morrison offered a prize of a 5x8 Universal camera for the best collection of pictures taken within the last three months, made from certain paper and from certain compositions, went to Mr. C. C. Craft, who showed about a dozen pictures. The prize offered by the Eastman Company, a C Ordinary Kodak, went to Mr. Lewis Clark, for the best collection of Kodak pictures.

In addition to the prizes, diplomas were awarded to W. S. Clow for his display of the best small landscapes, the best special compositions, the best flash-light pictures and bromide prints ; to Mr. A. R. Neeb for the best landscape 5x8 inches and over, the best single figure 5x8 inches and over, and the best views of machinery and manufactured objects ; to Mr. C. C. Craft for single figures, 5x7 inches and under, platinotypes, flowers, fruit and trees ; to Mr. J. H. Hunter for interior views, and to Mrs. S. A. Ammon for instantaneous pictures, views of animals and the best hand camera effects.

In the evening of the first day—Tuesday—a lantern-slide exhibit was given under the direction of Mr. W S. Bell, president of the society, followed by a second similar exhibit on Wednesday evening.

The "honor picture of 1892," to be determined by the vote of visitors and members of the society will be framed and placed permanently in the society's rooms.

Among the loaned photographs on exhibition was one of the monument now in the cemetery at Havana, erected in memory of the eight young students who met an unjust death for a crime they never committed.

Society News.

[Under this head we propose to publish all society matters of scientific or technical value which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

SOCIETY OF AMATEUR PHOTOGRAPHERS, NEW YORK.—*Tuesday Evening, June 14th, Regular Monthly Meeting.*—President R. A. B. Dayton occupied the chair. The principal business of the evening was a paper on dry plates, read by Mr. James H. Stebbins, Jr. It consisted chiefly of a review of the history of the dry plate; an account of various stages of improvement from the first discovery to the present day; an account of the peculiarities of gelatine and its adaptability to the holding of the sensitive particles of bromide of silver. He remarked that the first mentioned use of gelatine as a vehicle for silver salts was in 1850, and in 1861 Gaudin produced an albumen and gelatine emulsion containing iodide of silver with an excess of nitrate of silver, which he developed with tannin. In September, 1871, Dr. R. L. Maddox perfected a form of gelatine emulsion. Later, in 1873, it was found advantageous by King to remove the superfluous salts by washing. About the same year Johnston found the emulsion was improved by containing a small amount of soluble bromide in excess of what is necessary. Still later, Bennett found prolonged heating of the emulsion improved its sensitiveness. It was found that digestion by heat affected the molecules of the emulsion and in some way increased the sensitiveness. In 1879 Monckhoven found that the addition of ammonia to the emulsion increased the sensitiveness to the same degree as digestion by heat, and he invented what is called the ammonia process. In 1880 Dr. Maria Eder discovered the combination of boiling an emulsion and adding ammonia, which greatly improved it, and also that the addition of ammonium carbonate or soda assisted in ripening the emulsions. In 1882 Henderson announced his improved formula for making emulsions by precipitation with alcohol. He referred his hearers to Dr. Eder's handbook on photography as containing full details of the various processes of making emulsions. He gave a short account of the properties of gelatine, and explained how it will swell up in cold water, and if warmed in that condition, will turn into a solution, and when cool will form a jelly. Continued heating accelerates the decomposition of the gelatine. A low-grade gelatine is detected by the ammonia which it gives off. He mentioned one or two formulas for the preparation of a bromide emulsion before the solutions are added to the gelatine, and explained the difference between a gelatine and collodion emulsion. It was found that in the most sensitive emulsions the particles of bromide of silver were of large size, and Eder had determined the measure of one of these particles to be $\frac{1}{10000}$ of an inch in diameter. He explained the physical changes that took place in bromide of silver, and also the appearances of emulsions at different stages of sensitiveness; that ammonia in an emulsion takes the place of heat. In concluding, he said: The ripening property possessed by ammonia has been successfully applied to such cold emulsion processes as those of Cowan and Henderson. The next question that will be asked is, why should ammonia possess this ripening property? The immediate cause is probably the solubility of silver bromide in ammonia, which is familiar to all those who are acquainted with the characters of the silver haloids. On diluting the ammoniacal solution with water, or on driving off the ammonia by heat, the haloid will be re-precipitated. An action of this kind doubtless takes place during the ammonia-ripening process, the growth of the particles depending upon the gradual deposition from the solution of silver bromide upon the particles already present in the emulsion, just in the same manner as the alternative process of ripening by digestion. We have dwelt at some length upon the ripening process, but it must not be concluded that the extreme sensitiveness of a gelatine emulsion is due solely to the molecular state of the silver haloid. There are conditions to be considered before we can take leave of this part of the subject. In a washed collodion emulsion we are at the mercy of the preservative for sensitizing action. Now, in the gelatine emulsion, the gelatine itself is a bromine absorbent, and consequently a sensitizer; and, because of the intimate contact which exists between the imbedded silver haloid particles, the sensitizing action is capable of being exerted in the most perfect manner conceivable, short of the vehicle being actually in a state of solution. Then, again, the perfect imbedding of the silver haloid particles in the gelatine enables us to use developers of great strength, and thus to make the most out of the impressions produced on exposure. The co-operation of all these conditions has resulted in the production of a mixture which, for sensitiveness, exceeds anything that has hitherto been discovered, and has placed in the hands of photographers a series of methods which, for rapidity and convenience, must surpass the wildest hopes ever entertained by the pioneers of the art. Most of his remarks were not based on practical experiments by himself, but what he had gleaned in compiling the paper. At the conclusion of his remarks a vote of thanks was accorded to him.

Mr. Beach alluded to the new form of dry plates recently introduced, having a double film. The first sensitive film is an emulsion of slow sensitiveness, which is dried, and the plate is then coated a second time with the fast emulsion. It was said that such a plate gave more latitude in exposure; if the first film is accidently over-exposed the second film is exposed very nearly right, and the resulting negative, which would be ordinarily very weak and flat, is of proper density.

Mr. Stieglitz stated that he had heard of this kind of plate, and that while at first it was not considered of any particular merit, he had observed the subject was now being carefully considered and that experienced scientific artists and photographers had concluded it was a step in the right direction.

Mr. Beach then asked if any members could give any experience in regard to the keeping qualities of ortho or isochromatic plates. Mr. Stebbins stated, as regards isochromatic plates, he had emulsions which had been made for a long time and had turned out uniformly good negatives (the plates having been kept, perhaps, six or eight months).

The discussion then turned on the value of orthochromatic plates for general work, and Mr. Stieglitz remarked they should be used with caution; that he had found certain brands of plates, said to be orthochromatic, were not so on actual trial, and he had proved it by photographing a picture with marked blue and yellow contrasts. He obtained just as good detail on the plain plate as he did with the orthochromatic—both used without a screen—but in the isochromatic plate he had found there was a marked difference. In that plate the dye is mixed with the emulsion. He thought that it was a very false idea to use isochromatic plates on distant landscapes where the air was very clear, because it cut out from the picture what is termed atmosphere and made the distant objects as distinct as those in the foreground. If a photograph is to be what we see, there should be hazy indistinctness in the distance, and this is obtained only on an ordinary plate. He thought for typographical work, where it was a desire to cover a large portion of the country and bring out all the distant objects with minute sharpness, isochromatic plates were just the thing.

Mr. Stieglitz further stated there should be one principal object in a picture that should be clear and distinct, and all the other objects should be less so if it were desired to give a true artistic effect.

Mr. Murray differed somewhat from Mr. Stieglitz's views, but thought his idea in general was correct.

The president announced that it was the intention in the Fall to give a special exhibition, in the rooms of the society, of photographs contributed by members and others, and also examples of photo mechanical work ; and early in the Spring to give a second exhibition, in the same place. entirely the work of members of the society.

Mr. Beach read a proposed petition of photographers for the extension of the photographic privileges at the World's Fair (a copy of which appeared in our June number), but no action was taken. The meeting then adjourned.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting of the society was held on Wednesday evening. June 8th, 1892, Mr. Joseph H. Burroughs, president, in the chair.

The Board of Directors reported that at the conversational meeting, May 25th, the prize lantern-slides sent to the American Interchange by the English journal *Photography*, were shown.

Mr. Harrison D. Stratton was elected an active member at the board meeting, June 2d.

The family of the late Mr. William L. Springs have presented to the society a collection of lantern-slides made by Mr. Springs.

A communication from Mr. F. C. Beach, editor of THE AMERICAN AMATEUR PHOTOGRAPHER, was read in regard to the petition for the extension of the photographic privilege at the World's Fair in Chicago in 1893.

On motion of Mr. Taylor, the president was authorized to sign the petition representing the two hundred active and life members of the society.

Mr. G. B. Wood exhibited a small camera which a friend of his had brought from Paris. It was the size and shape of an opera or field glass, and carried twelve plates, size 2⅜x1¾. The lens was of a universal focus, and was contained in one side of the camera. The other side was used as a finder, the exposure being made by an exposing shutter on the lens.

Mr. G. B. Wood also exhibited a very ingenious dark lantern for use when traveling. It contained a reservoir for stearine, so arranged that when the lamp was lighted the heat melted the stearine, which then ran down to the wick. The lantern was small and compact, and could be readily packed for traveling.

Mr. Jennings exhibited a series of lantern and stereoscopic slides of lightning flashes. The stereoscopic pictures, he claimed. were the first ever made of the heaven's electrical discharge, and the stereoscopic effect was decided interesting. In one case the sensitive plate had caught the mystical thunderbolt, from which it radiated, in various directions, numerous tongues of flame. The theory of the exhibitor was that thunderbolts were formed by a collision of flashes and a consequent scattering of the discharge into a number of points or balls of flame, which traveled onward into space on their own account.

In another view the stereoscope revealed the fact that a discharge apparently zigzig in its direction, was really spiral in its course.

Mr. Browne submitted two negatives for inspection, one of which, a flash-light picture, was disfigured by a wavy ribbon of light across the centre. The other was dotted with small circular spots of white glass. The latter he believed to be due to the use of a rose nozzle in washing—a wearing away by the continued action of water—but the former he was utterly at a loss to account for.

Mr. Wood stated that he noticed the other day, on examining certain negatives taken seven or eight years ago, that the film was leaving the plate—coming off in great flakes. The plates were not frilled when developed, and he thought perhaps the alum bath rendered the film brittle, and gave it a tendency to leave the plate.

Mr. G. M. Taylor said he knew of an instance where the film had left the celluloid altogether—had pealed off in one piece.

Mr. Young exhibited negatives made by the new Zeiss Anastigmat lens, manufactured by the Bausch & Lomb Company. The lens was 4 x 5, but Mr. Young tried it on a 6½ x 8½ plate, with full opening, and it covered the plate well to the margin. The definition, depth of focus and rapidity were remarkable.

Mr. Pancoast showed a panoramic photograph of the city of Waterbury, Conn., which he had taken by means of an adjustable tripod top of his own manufacture. Four 8 x 10 plates were used, and the pivotal top he had carefully subdivided into four positions, embracing in all 101 degrees. He had a supplementary arrangement with five positions, which would take in 124 degrees. The picture exhibited showed great uniformity, and the continuity was admirable.

At the conclusion of the meeting a series of slides, presented to the society by the family of the late Mr. Springs, formerly a member of the society, were shown upon the screen, together with others contributed by members present for the evening's entertainment

Adjourned.

ROBERT S. REDFIELD, *Secretary*.

ALBANY CAMERA CLUB.—Says the Albany *Evening Journal:* There was a large attendance at the meeting of the Camera Club on the evening of June 3d. When the business session was concluded, during which Mr. George Comstock Baker, of this city, and Dr. C. R. Gross, of Schenectady, were elected to membership, a couple of hours were given over to admiring the lantern-slides sent in exchange by Philadelphia and Joliet clubs. Mr. Patterson officiated at the lantern, and the club was pleased with the slides shown. On June 4th began the contest for the Bausch-Lomb lens donated by W. W. Byington. Each member competing is to produce six prints from the negatives for competition. The work is to be judged by a committee composed of J. Van Buren, Robert Lenox Banks, Jr., and Trevor Lentze. The contest closes in September.

The president of the club, Mr. W. W. Byington, is spending the Summer in taking a photographic trip through Ireland. He finds the light there not as powerful as in the United States at a lower latitude. The country is fertile in subjects for the camera.

The club is to have an exhibition of photographs by members in the Fall. The public will probably be invited to this. It is expected that the prints which are entered for the above-mentioned competition will then be exhibited.

ROCHESTER CAMERA CLUB.—On June 5th Peter Mawdsley gave a demonstration and talk on the advancement of photography. Pictures made on Decoration Day were exhibited. Further meetings are put off till the second week in September.

WORCESTER CAMERA CLUB.—The secretary reports that the officers elected for 1892-'93 are president, D. W. Carter; vice-president, A. M. Powell; treasurer, E. C. A. Becker; secretary, Albert H. Chaffee; Executive Committee, the foregoing, together with Mrs. Frank W. Blair, Jerome Marble, Geo. H. Corbett.

We have rooms very pleasantly fitted up at 492 Main street, and every amateur photographer visiting the city is cordially invited to call and make use of them. The members are showing much interest in the club. The last meeting was held on Monday evening, June 6th. The next meeting occurs on July 11th.

THE CHICAGO CAMERA CLUB.—On Tuesday evening, June 14th, an exhibition of slides by the Colorado Camera Club and from China were shown. The secretary, Mr. E. Burton Holmes, has sent a copy of the by-laws and membership list of the club, neatly printed.

THE CHICAGO LANTERN SLIDE CLUB.—Mr. W. A. Morse, the secretary, reports: Our members and friends gathered in the club-rooms on Wednesday evening, June 15th, to enjoy the pictures sent by the California Camera Club. We had a treat, and cannot refrain from giving praise to our Pacific coast friends for the excellent collection of lantern-slides sent to the Interchange this season. While we are not acquainted with the personnel of the club, it would seem that *all* the slide-makers turned in to make up a grand variety in subjects. Particularly pleasing is the method of "titles," all neatly printed upon the mats, safe from soiling by the cover-glass protection; also the general uniformity in binding all slides. It may hardly be fair play to select from this entire collection any particular slide for especial praise, and yet one Genie study was most charming, and the lady, Mrs. Wetmore, deserves honorable mention for so thoroughly an artistic picture as "Comin' thro' the Rye," although we distinctly note that it is the *cornfield* they are in, and not "In the Rye." The landscapes and marine views all, without an exception, were artistic compositions, and we thoroughly enjoyed the entire collection.

Now for the annual picture-taking which all of our interchange clubs must indulge in, if we will assist in making others happy next Fall and Winter by showing what *we saw* and what they, probably, *did not see*. Already some of our members are off on their vacations. Mr. Robert Berger has taken his family for a ramble in Germany, and Mr. Walter Nelson has gone for a season in France and Switzerland. Mr. E. Burton Holmes, having just returned from a Winter in old Mexico and the South, will assist in making our next box one of excellent variety and quality, while to those of us who must stay at home the World's Fair grounds ought to furnish many a picturesque landscape and architectural view.

CALIFORNIA CAMERA CLUB.—*The San Francisco Chronicle* gives a report of Prof. E. E. Barnard's lecture before the club, on May 27th, on "Astronomical Photography," from which we have taken a few extracts of interest.

"Professor Barnard devoted considerable time to an explanation of the methods adopted for securing astronomical photographs, and incidentally spoke of the way astronomers measured distance through the dark transverse lines found on photographs of spectra. He illustrated the same idea by the fact that an expert, if he knows the tone of the whistle of a locomotive, can tell by the height or depth of its note whether it is going away or coming toward him, and at what speed. The lecturer also showed how, in taking the photograph of a star where an exposure of several hours was necessary, the operator had to guide the camera with his hand so as to keep the object in focus and prevent blurring.

"Among many other astronomical phenomena described by Professor Barnard was 'The Demon of the Slowly Winking Eye,' the star that in every two days and twenty hours begins to fade and gradually diminishes in brilliancy for twenty minutes and then resumes its original luster. He accounted for this peculiarity by the theory that the star was revolving around a common centre with some non-luminous body. Photographs were shown of several stars whose peculiarities are well known to amateur astronomers, but many facts were stated that were new to nearly every one present. Professor Barnard said, among other things, that the great telescope on Mount Hamilton was by no means the largest in the world; that there were half a dozen larger, but that it was the most powerful one in existence. He also remarked that the telescope of 200 years ago showed practically all that is known about the moon to-day; that all the great modern telescopes had made no new discoveries upon that body. In showing a dozen or more photographs of the moon, the professor called the attention of his audience to the dark shadows by which the height of the mountain-ranges on the moon were known, and to illustrate the theory he showed a photograph of a model of Vesuvius and the Bay of Naples, in which the same effects were visible.

"Perhaps the most interesting part of the lecture was that devoted to photographs of stars and comets. Fully a dozen photographs of the Milky Way were shown, and the latest views that have been taken of Venus, Saturn and Mars. The recent discovery of new canals on the surface of Mars was dwelt upon as a possible argument in favor of the existence of man upon that planet, and these were shown in several photographs in support of different astronomical theories. The Swift comet was thrown upon the screen from the latest photographs, one of them taken only two days ago, and its discovery, progress and present position were fully explained. Several photographs of groups of comets were also among those displayed, and eclipses of the sun and moon, and the transit of Venus as well, were not forgotten."

A committee of the club, appointed to obtain material for a pay exhibition to be held in August next, has sent out a notice to members, urging them to contribute slides in order that the high standard already set by the club, and appreciated wherever the club's slides have been shown, may be maintained.

June 29th.—The English prize slides of the London *Amateur Photographer* were shown to an interested audience.

MINNEAPOLIS CAMERA CLUB.—This new club was recently organized, says the Minneapolis *Tribune*, and in a short time will have elegant club-rooms fitted up. It is called the Minneapolis Camera Club, and has the following members: President, W. M. Tenny; vice-president, F. Channing Whitney; secretary, A. L. Eidemiller; treasurer, W. C. Porter. The above-named officers, with the following, constitute the Board of Directors: W. T. Rolph, F. E. Haynes, J. M. Greaves, Russell M. Bennett, F. N. White, Wayland B. Augir. The club is incorporated, and has the following standing committees: House Committee, F. E. Haynes, F. N. White, W. T. Rolph; Lantern Slide Committee, W. C. Whitney, A. L. Eidemiller, W. M. Tenney; Membership Committee, W. T. Rolph, W. B. Augir, R. M Bennett; Committee on Meetings, J. M. Greaves, W. C. Porter, A. L. Eidemiller.

NASHUA CAMERA CLUB.—A memorial exhibition of photographs was given on June 11th and 12th at Odd Fellows' Hall, in memory of the late president, Fred H. Morrill.

LOOKOUT MOUNTAIN CAMERA CLUB.—This new club has lately been organized at Chattanooga, Tenn. The principal officers are: C. S. McKune, president; S. C Dodge, vice-president, and H. F Probasco, secretary and treasurer. Outings for this Summer are projected. Regular meetings are held the second Friday of each month in the rooms of the Library Association.

THE DELAWARE CAMERA CLUB, of Wilmington, Delaware, went on an outing on Saturday, June 25th, to Point Lookout, on the Wilmington and Northern Railroad.

THE PHOTOGRAPHIC SOCIETY OF JAPAN.—The annual meeting of this society was held on Friday, May 13th, in the rooms of the Geographical Society of Japan, Nishi konya cho, Tokyo.

There was an exhibition of work by members, and of apparatus during the daytime. Amongst other things were shown a large collection of the most modern apparatus, by Mr. R. Konishi; a set of photographs on porcelain, excellently reproduced The secretaries did not receive any note of the maker of these enamels, and would like to hear from him A series of fine prints on gelatino citro-chloride paper, by Mr. G. Brinkworth, and an album of the Tokaido, by Mr. K. Ogawa, were also shown.

At 5 P. M. there was a meeting for the election of officers and for other formal business, Viscount Okabe, vice-president of the society, in the chair.

The minutes of the last meeting having been read and approved, the chairman called on the secretaries to read their report for the past year, which they accordingly did as follows :

Your secretaries have again to report the successful working of the society for the past year. The membership has greatly increased, there being now nearly 140 on the list. During the past year there were five regular meetings, two lantern exhibitions, one exhibition of work done by members during the Summer, and several outdoor meetings. Various processes were demonstrated, but none of remarkable novelty. Perhaps the most interesting meeting, technically, was one when a machine was fitted up for timing shutters. Members brought their shutters, and the exposures actually given by them were recorded.

The report then details the trouble in getting up meetings because the society has no fixed quarters and no set time for the holding of meetings.

We have to record, with deep sorrow, the recent sad death of Mr. T. Hayasahi, attaché to the Korean Legation, whose lantern-slides were exhibited only at the last meeting of the society.

This report having been passed, the treasurers were asked to present their report. Mr. A. J. Hare, having stated that the society was in a financially flourishing state, presented the balance-sheet, which showed receipts amounting to $100, with a balance of $70 left over last year, and expenses (hiring of rooms, printing and postage, and sundries) amounting to $78, leaving a balance on hand of $92.

[It will be seen the expenses were about as small as one could imagine for a new society.]

The officers for the past year having retired, it was proposed by Prof. J. Milne, seconded by Professor Kikuchi, that they be all re-elected, and they were re-elected accordingly.

It was proposed by Professor Kikuchi, seconded by Prof. C. D. West, that Count T. Toda and Dr. E Divers, F.R.S., etc., be elected vice-presidents of the society. They were unanimously elected.

The following was then proposed by Mr. C. D. West, seconded by Mr. D. Kikuchi :

"That there be a monthly meeting of the Photographic Society on a definite day, say the first Friday in each month ; at a definite place, say the rooms of the Geographical Society, and at a definite hour, say 5 P. M. This monthly meeting to be held in any case without any special summons being sent out, or even without any special work to show. That the members meet thus and hold a conversazione, refreshment being provided by the society. Any members who have any work to show, or any apparatus, or process to explain, should bring such in order to promote technical discussion and conversation."

After some discussion, during which it was decided that it would be necessary to send out at any rate a post-card reminding members of each meeting, the resolution was passed, and the secretaries were instructed to make inquiries about a likely place of meeting, and to report to the committee.

It was then put from the Chair that there be sent from the society an expression of its sympathy with the family of the late Mr. T. Hayashi. There being no objection, Mr. I. Ishikawa was instructed to write a letter of sympathy in the name of the society.

This concluded the formal meeting, and there was an interval for refreshments till 7 P. M.

At that hour there was a very good attendance, and Viscount Okabe having again taken the chair, Mr. K. Ogura read a paper on "Stripping Gelatine Films," and gave a demonstration of the process. Afterwards Mr. T. Saito demonstrated the "Stripping of Collodion Films, and the Applying of Them to Wood for the Engraver." Both demonstrations where highly successful, but the details are of so technical a nature that they would probably not be interesting to readers.

Mr. C. D. West then read a short paper on "A New Toning Process for Silver Prints." This process is simplicity itself. The prints must be on plain paper. They are printed in the usual way, are fixed and are then thoroughly washed. After this they are dipped in a solution of sulphureted hydrogen till they reach the tone wished for. Prints were shown that were of an excellent tone Mr. West said that probably photographers would think that such prints were of necessity the reverse of permanent; but he saw no reason to think so. Sulphide of silver was really the most permanent silver salt he knew of. As a matter of fact, he had failed to make any alteration on prints, either by dampness or by the action of light, during one year.

After this paper was read, Mr. W. K. Burton exhibited the action of a very novel form of optical lantern that had been brought from America by Dr. A. B. de Guerville. This apparatus, although occupying little more room than an ordinary lime-light lantern, distils its own oxygen and hydrogen substitute as the exhibition goes on. Considering that the gear was in the hands of a lanternist of but slight experience, and that it was tried by him only for the fourth time, it worked with remarkable smoothness. The light was of extreme brilliancy, and the audience seemed to highly appreciate a set of scenes that were projected on the screen.

The proceedings terminated with a vote of thanks to the chairman.

ST. LOUIS CAMERA CLUB —The regular meeting of the St. Louis Camera Club took place on Tuesday evening, June 7th, at the Pastime Club House. A committee of the following gentlemen were appointed to arrange a series of entertainments to be given at the Entertainment Hall, Exposition Building, next Winter. They are: W. M. Butler, J. W. Dunn, W. A. Boeck, B. D. Wheeler, D. B. Aloe and C. M. Alexander.

CINCINNATI CAMERA CLUB.—On Tuesday, June 14th, the club gave a public exhibition of outdoor photographs, which attracted much attention.

Concerning it, the *Cincinnati Times and Star* says: "The club, at its regular meeting June 14th, was much interested in the prints of members representing the negatives made on Decoration Day. Several groups of the club were made by Messrs. Collier, Carpenter and Peck, and all proved satisfactory. Mr. Kay showed an interior of a blacksmith shop, which had all the characteristics of a painted picture; in fact, it was hard to believe in the platinum print that it was not a photograph of a painting. A set of English prize slides were shown also, and proved instructive and interesting."

MANCHESTER (CONN.) CAMERA CLUB.—Mr. Peters gave a very interesting talk on "Astronomical Photography" before the club, at Mr. R. O. Cheney's house, on Friday evening, June 10th. The talk was illustrated by views prepared by Mr. Peters, who is an enthusiast in astronomical science.

The club now has eleven active members, and is doing some very good field work, and expects to give an exhibition at Cheney's Hall in September.

TORONTO CAMERA CLUB.—The club is now in its fourth year, and is in a prosperous condition, numbering over one hundred members. Lectures on different subjects relating to photography are given every Monday evening, and an exhibition of lantern-slides, the work of members, is held once a month. The club has four rooms, nicely fitted up with a portrait camera, enlarging apparatus, backgrounds, etc. An account of the first exhibition of the club will be found on another page.

OUTING OF THE NEW ENGLAND CAMERA CLUBS—NEW ENGLAND LANTERN SLIDE EXCHANGE.—The outing occurred on Friday, June 17th. We glean from the Providence (R. I.) *Journal* the following account:

Once a year the camera and snap-shot friends of New England have an excursion. They went down Narragansett Bay on June 17th. The representatives of camera clubs of Providence, Boston, Lynn, Lowell, New Haven, Matapan, Springfield, Pawtucket, New Britain and Mystic were present, and in all, including their guests, there were 125 people. Steamer "Pomham" had been chartered to carry the party on its outing, but an unavoidable accident necessitated the pressing into service of the large side-wheeler, "Thomas A. Morgan." The sail to Rocky Point was interesting. Steamer "Connecticut" was the first object treated to a shot. If one amateur "caught" her fifty did. Farther down the bay the several lighthouses and other objects were snapped at. At Rocky Point the boat made a halt at 11 o'clock, and remained there for nearly three hours. After the excursionists had an opportunity to roam around the grounds "catching" things, dinner was served. Before re-embarking, half of the party seated itself on the hilly ground opposite the ladies' reception room, and remained there until the other half had photographed it. When all boarded the "Morgan" she proceeded up Mount Hope Bay nearly to Fall River.

En route the New England Lantern Slide Exchange, a society including all the New England clubs, held its annual meeting. W. C. Eddy, of the Mystic Camera Club, was elected chairman. The Exchange voted to amend the constitution so that fifteen clubs could belong instead of ten. The following clubs were elected to membership: Boston Camera Club, New Haven Camera Club, Matapan Camera Club, Pawtucket Camera Club and the Lowell Camera Club. With delegates from these clubs, the representatives at the meeting included the Lynn, Springfield, Mystic and New Britain Camera Clubs. The clubs at Waterbury, Conn., and Portland, Me., were represented by proxy.

Secretary of the Exchange, R. Clinton Fuller, who is president of the Providence club, read his annual report. It showed progress in the work of the Exchange during the season just ended. The dates arranged by the secretary were maintained by the various clubs very closely, and the circulation of the slides was as satisfactory as could be expected. The financial report showed a balance on hand of $8.53. The report was accepted. Then followed a general discussion of the work carried on, and it was the general opinion that the slide exhibitions would be much more interesting were they accompanied by a short sketch. The Providence club will undoubtedly adopt that plan the coming Winter.

Mr. Fuller was unanimously elected secretary for the coming year. After an hour's session the Exchange adjourned. The sail up Mount Hope Bay afforded the young people an opportunity to photograph the famous Herreshoff's works at Bristol, several yachts and one large four-masted schooner, bound out in full sail. Reckoning that each camera was supplied with four plates, it is safe to state that 400 pictures were taken on the voyage. The clubs reached Providence at 5.15 o'clock.

The Boston Camera Club was represented by H. N. Sweet, president; W. C. Brown, secretary, and Wilfred A. French.

WATERBURY CAMERA CLUB.—Ten members of the club went on an outing on June 12th to Milford and Meadow's End, Conn., and had an enjoyable time. Bad weather prevented much picture-taking. The club is contemplating joining the American Lantern Slide Interchange. It is already a member of the New England Lantern Interchange and of the Prize Print Interchange.

Books and Exchanges.

LANTERN-SLIDES, AND HOW TO MAKE THEM. By A. R. Dresser, M.S.L. Second edition (tenth thousand).

The great demand for this little book proves its popularity and value. Amateurs everywhere should read it, as it is written especially for them and expresses clearly the methods of slide-making as applied to gelatino-bromide plates. He urges preparing slides for use by the oxy-hydrogen light, and although describing contact work, evidently prefers reduction slides even with negatives 3¼ x 4¼. His suggestions as to the use of artificial light are excellent, as are the various methods of dodging weak places in the negative. In his useful hints on development he does not mention the latest developers, eikonogen and para-amidophenol, both of which are excellent. His recommendations as to matting and mounting are made on the plan of foreign workers and not our own, which latter are far better, and they are beginning to find favor abroad. The book is one which no slide-maker can afford to be without. It is published in this country by the Scovill & Adams Company, 423 Broome street, New York.

A NEW edition of H P. Robinson's "Pictorial Effect in Photography" is also before us for review, but it is surely painting the lily to try and add anything more to the universal praise the book has received. It should be studied from cover to cover until its lessons are deeply impressed on the reader's mind, so much so as to act in the nature of a corrective for much of the misleading superficial teaching liberally furnished to photographic workers. Mr. Robinson believes in taking trouble to attain his ends, and that the best genius is that which enables the brain not only to assimilate, but put into general circulation all the knowledge it can gain. Knowledge is like Portia's definition of mercy: "It blesseth him that gives and him that takes." This work and Mr. Taylor's on "Optics" form excellent companion volumes, and we recommend them as such.

THE CARBON PROCESS.—We have received a very complete little pamphlet from the Blair Camera Company, giving in concise language the necessary directions to successfully practice and carry out the carbon process This process, in general, is more simple than the albumen process, and it is surprising that it is not practiced as much as it should be. The materials necessary may be obtained from either the Blair Camera Company or from E. & H. T. Anthony Co.

ROCHESTER, NEW YORK, 1892.—A handsome illustrated report of the business of Rochester, giving illustrations of its principal buildings and industries, issued by the Rochester Chamber of Commerce. We have to thank the Eastman Kodak Company for sending us this interesting book.

"TROUTING WITH A CAMERA," by "Multiplier," in *Outing* for July, is an excellent description of the fun enjoyed with rod and camera by a party of campers on Superior's picturesque north shore.

We have received from H A. Hyatt, of St. Louis, Mo., a very complete bargain list of photographic apparatus and materials.

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PHOTOGRAPHIC CONVENTION OF THE UNITED KINGDOM OF GREAT BRITAIN.—From cable advices under date of July 12th (as we go to press), received from Miss C. W. Barnes, we learn that the convention begun on that date at Edinburgh, Scotland, was a great success, the attendance being large and the papers read being of unusual interest. Miss Barnes' paper on "Amateur Photography in America" was received with much enthusiasm, sustaining fully her ability as an exponent of the literature of photography. We expect to give a full report of the convention in our next number.

Publishers' Department.

[In justice both to ourselves and to those firms whose specialties are mentioned in this department we desire to state that we neither ask nor receive compensation for such notices as are given. Any dealer or manufacturer who sends us samples of goods for notice will receive just what the merits of the goods deserve, no more and no less. Any apparatus sent us for trial and notice will be returned if so requested. This department is maintained in the interests of our readers, to whom timely notice of novelties may be valuable.]

A NEW WESTERN FIRM.—We have received notice of the formation of a new firm in San Francisco, Cal., under the style of Andrews & Lange, for the purpose of carrying on a "commercial photographic business," which undoubtedly will be a successful concern, as Mr. T. P. Andrews is the active spirit and secretary of the California Camera Club and Mr. O. V. Lange is an experienced photographer of some years' standing. Mr. Andrews also conducts a photographic brokerage business, and rents, buys or sells magic lanterns, screens, etc.

INSTANTANEOUS PHOTO-PRINTING.—Under this title we have received from Messrs. Marks and Dennis, 250 Wabash avenue, Chicago, Ill. (Western agents), samples of a new bromide paper which is an improvement over anything else of the kind we have seen. It is made waterproof, and is then coated on one side with the sensitive emulsion and on the back with some sort of an adhesive compound. The effect is first to make the picture appear more brilliant on the surface, having a slight gloss similar to an albumen print, while the back supplies the material for immediately mounting the print after it is finished. If dried without mounting, the print remains perfectly flat, as the adhesive on the back counteracts the curling properties of the gelatine on the front.

It is called the K. & W. Monogram Paper, and is manufactured in New Jersey. Of course it is rapid, since an exposure of a fraction of a second to a north light is sufficient, and the picture is brought out by development. We have found it to work very satisfactorily. Special machines are sold for making exposures at the rate of sixty per minute. The prints may be toned different colors by nitrate of uranium, or chloride of gold and sulphocyanide of ammonium.

A NEW ROCHESTER ENTERPRISE.—Some months ago we alluded to the fact of Messrs. Milburn, Passavant and Reichenbach retiring from the Eastman Company and proposing to begin business on their own account. It appears their former employers sought to prevent them by legal measures, injunctions, etc., from engaging in the business on the untenable ground that they carried with them the secret formulas, many of which they originated, and which their employers supposed were their exclusive property. Their employers did not wait, so it is said, until business was actually begun to see whether the processes employed were infringements on those which they held as secret or as patented, but proceeded in quite an ex parte way, on what is alleged to be perjured evidence, to bring the force of legal machinery to bear against the new concern with all the ingenuity that could be devised. The litigation was extended for a long time before a trial of the case was reached.

Then it was proven that the so-called valued secret formulas were copied out of photographic publications or modifications of the same, and were, in fact, public property.

The other evidence intended to show that the new concern was purposely conspiring to injure the business of their former employers was also proved to be unfounded, and the establishment of the principle of the freedom of individuals to organize companies for carrying on a similar kind of business was decided in favor of the new company. The Eastman Company was required to give bonds to the amount of $5,000 in case the final decision was against it.

By Mr. G. D. Milburn we are informed that he has invented and perfected a photographic film-holder for cut sheets, which is as compact as a roll-holder for the same number of exposures and the trouble to load it is much less. The film, in cut-sheet form, can be manufactured with much greater degree of perfection than in roll. It is not generally known, he says, that the very pressure necessary to spool a roll of film is fatal to the production of good negatives. This pressure in a degree accounts for the perplexing fog, as well as markings, in film negatives. In some instances the joint in a roll of film will show itself imprinted in five adjacent exposures, being due to the pressure of the overlying film on the joint.

The new concern is called the Corona Camera Company, and having experimented for some time, intends soon to place the perfected film and film-holder on the market. With Mr. Milburn's practical knowledge of photographic appliances, Dr. Passavant's skill in emulsion-making and Mr. Reichenbach's chemical knowledge on film manufacture, we think the new company begins well, and should supply a reliable article to the photographic public. Rochester has come to be a prominent centre in the manufacture of photographic materials, lenses and appliances. The advent of the new company will add one more to its several enterprises. We wish the company success in securing a share of the public patronage and hope it will maintain as high a standard as it has set out to do.

AN ENGLISH PRIZE COMPETITION.—Messrs. Perken, Son & Rayment, of London, England, have begun a competition, open to all American or European amateurs and professional photographers, which will involve the distribution of nearly $500 worth of photographic apparatus. Briefly stated, the rules are as follows:

1. Every prize-winner shall be required to make an affidavit that his negative has been produced by the aid of a lens bearing the trade-mark "Optimus" and name "Perken, Son & Rayment," engraved on the mount, within the given period, and shall produce the lens if called upon. All prints sent in to this competition shall become the property of Messrs. Perken, Son & Rayment. The negatives of the prize prints shall also become their property. 2. That every print must be from a negative produced since January 1st, 1892. 3. The artistic trimming of prints shall be allowed, but in all cases the full size of the negative must be stated on the face of mount and entry form. 4. Enlargements, or prints from enlarged negatives, will not be admissible. 5. The whole work must be done solely by the competitor. 6. All prints shall be mounted, and bear on the face of the mount, in the middle, half an inch below the base of the picture, a written or printed title, and on the back a *nom de plume*. The mount must not project more than one-third of the picture on each side. For example, the mount for a print measuring 7½ x 5 must not measure more than 12½ x 8⅓ in. 7. With each print must be inclosed an envelope bearing on the outside the *nom de plume*, and inside an entry form, duly filled up, bearing competitor's name and address. 8. All prints and entry forms must be received by October 31st, and must be marked outside "'Optimus' Competition."

Classes: 1. Landscape, with and without figure. Subclass A, 7 x 5 and under; subclass B, 8½ x 6½ and over. 2. Seascape. Subclass A, 7 x 5 and under; subclass B, 8½ x 6½ and over. 3. Portraiture and figure study. Subclass A, 7 x 5 and under; subclass B, 8½ x 6½ and over. 4. Instantaneous work, including also hand-camera work, limited to 5 x 4 and under.

Prizes.—Apparatus to the value of £15 in each of the following, *viz.*:

Class 1.—Subclass A, subclass B.
Class 2.—Subclass A, subclass B.
Class 3.—Subclass A, subclass B.
Class 4.—First Prize.

All prints to be sent to E. J. Wall, Esq., *Editor "Amateur Photographer,"* 1 Creed Lane, Ludgate Hill, London, E. C.

"Index Rerum Photographic," by Dr. John H. Janeway, U. S. A., continued from page 286, vol iv.

and will quickly settle to the bottom of the jug, and is then washed by stirring it about with a clean hand. Let it settle, pour off the water, and pour on fresh. Continue this for at least twenty minutes, then pour the whole into a hair-sieve and douse it frequently with cold water. After remaining in the sieve for an hour, the water will have so far passed through the sieve that the consistency of the emulsion will be about that of butter. It has now to be melted and strained to remove any mechanical impurities. Remove it from the sieve with a silver or horn spoon to a cup or jar with a cover and place it into water at about 100° to 120° F. When it is about the consistency of thick milk, it is ready for straining, which is done through two thicknesses—an old handkerchief will do—over a funnel, which should be previously warmed, and collected in a wide-mouth bottle. There should be, after all is passed through, about 6 or 7 ounces of the emulsion. If there should be less, make it up to that quantity by the addition of warm water. Then add ½ ounce of warm alcohol, and the emulsion is ready for the plate. If it is not to be used at once, add 2 grains of thymol dissolved in alcohol, and set the whole aside in a cool place. For a more rapid emulsion, the formula given in "Mosaics," 1885, is an excellent one: Nelson's No. 1 gelatine, 80 grains; bromide of potassium (Schering's), 164 grains; iodide of potassium, 20 grains; water, filtered, 5 ounces. First dissolve the salts and then add the gelatine, and set the vessel containing the solution in hot water, temperature 120° F. Weigh out 232 grains of nitrate of silver (recrystallized), put it in a pyro bottle or an opaque jug; heat both the vessels containing the nitrate of silver and the bromized gelatine to a temperature of about 140° F. by any convenient means; carry them into the dark room, and set into your kettle or saucepan, filled with hot water at boiling temperature suitable for boiling the emulsion, and in a weak ruby light pour in a stream of the bromized gelatine upon the hot, dry crystals of nitrate of silver. Insert the tight-fitting stopper and shake vigorously till the silver crystals are dissolved. You can generally tell this by the sound of their striking the bottle ceasing. Then place the emulsion in the kettle of boiling water, having previously removed the tight cork and inserted the grooved one; cover the kettle tightly, place your alcohol lamp under it, and let the water and emulsion boil briskly for thirty minutes. If boiled longer than this, add one or two drops of nitric acid. To insure the contents of the bottle or jug being at the same temperature of the water in which it is, it is necessary to suspend it, so that it does not touch the kettle at either bottom or sides. A piece of brass wire, No. 12, will do this. Every ten minutes remove the lamp from the room, uncover the kettle, take out the bottle of emulsion, and again putting in the tight stopper, shake the bottle for a few seconds, replace the grooved stopper and put it back into the kettle, recover the kettle, return the lamp and again boil the water. As soon as you have mixed the emulsion and started the cooking again, return to your outside room and weigh out hard gelatine (180 grains), soft gelatine (100 grains); put this in a cup and pour on a sufficient quantity of cold water to cover it. Let it soak during the boiling of the emulsion, say for thirty minutes; at the expiration of that time remove the lamp, and leaving the bottle of emulsion in the kettle, let its contents gradually cool. While this is going on, place the cup containing the softened gelatine in water about 100° F. and allow it to melt. By the time this is complete, the temperature of the emulsion will probably reach the same figure; when it has, pour it upon the softened gelatine and stir thoroughly till perfectly mixed with a silver fork or spoon. Finally add to this, with much stirring, one dram of strong water of ammonia and shake well. Then remove the emulsion to a cool, dark room and allow it to "set." The details of washing, filtering, etc., are precisely as in the foregoing formula. When this is done, there should be about 16 ounces of emulsion; if not, make it up to that quantity by adding water. To this add 1½ ounces of alcohol warmed.

Andra's Formula—Bromide of ammonia, 138 grains; nitrate of silver, 208 grains; gelatine, 310 grains. Dissolve the ammonium salt in 5 ounces of water and add 138 grains of the gelatine, cut up in shreds. As soon as the gelatine has swelled dissolve in a water bath. While this is taking place dissolve the remaining silver in 2½ ounces of water with gentle heat. While both solutions are warm add the silver solution to the gelatine. This and the following operations must be carried on in ruby light. The silver emulsion is to be kept at the boiling point for thirty minutes, or until a few drops of it, spread upon a slip of glass, is blue by transmitted light. Allow it to cool down to about 120° F., and then add 81 grains of shredded gelatine previously swelled in cold water. When the gelatine is dissolved add 2 drams of a 2 per cent. solution of bichromate of potassium; mix well, and pour into a clean porcelain tray to "set." When set, the emulsion is cut into shreds, squeezed through canvas and washed. It is then drained, and 81 grains of swollen gelatine added and dissolved by gentle heat and set out to "set." When the emulsion is set it is covered with alcohol to ripen for eight days. It is then melted, filtered and spread over the plate.

Henderson's Ammonia Method—Dissolve in 8½ ounces of distilled water 308 grains of bromide of ammonium, 50 grains of gelatine previously swelled. When cold add 1¾ ounces of water, 1¾ ounces of alcohol and 4 drams of strong ammonia. In 3½ ounces of distilled water dissolve by heat 462 grains of nitrate of silver, and add gradually to first solution. An emulsion thus prepared lacks sensitiveness. This is produced by allowing the emulsion to ripen for 24 hours. Under the alkaline condition present, sensitiveness is conferred in this simple way. At the end of 24 hours 220 grains of swelled gelatine are added and dissolved by gentle heat. Wash, filter, etc., as usual.

Eder's Ammonia Nitrate of Silver Method—In 4 ounces of distilled water dissolve 310 grains of bromide of potassium and add 617 grains of gelatine previously swelled in water. In 4 ounces of distilled water dissolve 462 grains of nitrate of silver. To this solution, cold, add strong ammonia, drop by drop, until the precipitate first formed is dissolved. Add this gradually to the first solution and place in a water bath at a temperature of 105°; remove the source of heat and allow the emulsion to cool down gradually to about 75°; then pour out to set, and proceed as usual. For plates of moderate sensitiveness this will be found to be an excellent formula.

Burton's Precipitation Method—In 1½ ounces of distilled water dissolve 120 grains of bromide of potassium, 10 grains of iodide of ammonium, then add 30 grains of soft gelatine; swell and dissolve at 95°, and add 1 drop of hydrobromic acid. In 1½ ounces of distilled water dissolve 212 grains of nitrate of silver, and add to the bromized solution in a fine stream. Boil for thirty minutes, cool down to about 60° and then pour the emulsion, in a fine stream, into a clean dish containing 8 ounces of alcohol. In a few seconds the emulsion precipitates; it is then washed by decantation in a few changes of water, after which it is added to the following solution: Soft gelatine, 120 grains; hard gelatine, 150 grains; distilled water, 12 ounces. The mixture is well shaken to effect solution; the emulsion is then filtered and used for coating. This method has many points to recommend it. The plates are of the best quality and yield plucky negatives. The bromide of silver precipitate may be prepared, dried and preserved indefinitely; and the tedious operation of prolonged washing and draining are done away with, since a few changes of water serve to eliminate the last traces of the soluble salts from the precipitated bromide.

Gelatino-Chloride Emulsion for Slides and Transparencies—In 7 ounces of distilled water dissolve 108 grains of chloride of sodium and 310 grains of gelatine. In 3½ ounces of distilled water dissolve 231 grains of nitrate of silver. Heat both solutions to 120° F. and add the nitrate to the gelatine. Pour out to set at once.

Wellington's Citro-Chloride Emulsion for Opals—In distilled water (3 ounces) dissolve 20 grains of chloride of sodium, 40 grains of bromide of potash, 100 grains of citric acid and 40 grains of soft gelatine. In 3 ounces of distilled water dissolve 100 grains of nitrate of silver and 100 grains of citric acid. Heat both solutions to 150° F. and add the nitrate to the gelatine. Then add 200 grains of hard gelatine (swelled) and stir until dissolved; then pour out to set.

Sizekely's Process with Carbonate of Silver—The following solutions are made up. First, distilled water, 45 drams; nitrate of silver, 261 grains. No. 2, distilled water, 45 drams; bicarbonate of soda, 154 grains. No. 3, distilled water, 45 drams; bromide of ammonia, 154 grains; gelatine, 340 grains. Solution No. 2 is boiled and then added to No. 1. The precipitate of carbonate of silver thus formed is well washed and thrown on a filter. When the bulk of the liquid has run through, the wet precipitate is placed in a beaker, and its bulk made up, if necessary, to 45 drams. Strong ammonia is then added until a clear solution is obtained. This solution is poured gradually, and with constant stirring, into solution No. 3. The bottle is rinsed out with 5 drams of distilled water, which is added to the emulsion, which is then filtered in a funnel, from which it runs in a fine stream. The emulsion must be kept constantly stirred. Sensitiveness is given to the emulsion by digesting it from one to two hours at a temperature of 100° F. All the operations preceding the addition of the silver solution to the bromized gelatine may be performed in diffused white light. This process gives negatives rich in detail and gradations and free from fog.

Collodio-Gelatine Emulsions—The great drawback to amateurs, in the preparation of small quantities of the gelatino-bromide plate, has been the somewhat difficult operation of coating the plate, and the need of efficient drying arrangements. To simplify these it was proposed to combine the gelatine emulsion with collodion. Many experiments were made, but under the usual conditions this was impossible, since the solvent of pyroxylin precipitates gelatine from an aqueous solution. Dr. H. W. Vogel solved this difficulty. His method is to prepare a gelatine emulsion as usual, and after washing, to dry it by spreading it out on clean blotting-paper, where it is allowed to dry spontaneously. The dried pellicle is dissolved by heat in three to ten times its weight of acetic acid, the quantity of acid varying according to the kind of gelatine used in making the emulsion. Enough alcohol is then added to make it flow well at a temperature of 90° F. The plate may be coated with the emulsion in this condition, but in order to give greater tenacity, Dr. Vogel recommends the addition of an equal quantity of a collodion, made as follows: Pyroxylin, 20 grains; glacial acetic acid, 1 ounce; alcohol, 1 ounce.

Kosarzeunki's Method—Alcohol, 2 ounces; glacial acetic acid, 2 ounces; pyroxylin, 18 grains—to which is added 180 grains of gelatine emulsion, and dissolved by heat. Plates which are to be coated with any of these emulsions must first receive a very tenacious substratum. The albumen and silicate of soda substratum answer very well. The emulsion is flowed over the plate like collodion, the plates drained, and then rocked gently to prevent the formation of ridges. The great advantage of this form of emulsion is that it may be kept in a bottle and used for coating plates as wanted. Sensitiveness seems to be a trifle diminished, but the plates yield good results.

Canon Beechey's too much Neglected Process—The following solutions are made up: (1). Bromized stock solution: Bromide of cadmium, anhydrous, 300 grains; alcohol, 805°, 8 ounces. This solution is allowed to settle till clear. The supernatant liquid is then carefully decanted off, and 1 dram of hydrochloric acid is added. In this condition the solution will keep for years. (2). Collodion: Bromized solution, ½ ounce; absolute ether, 9 drams; pyroxylin, 12 grains. These ingredients are placed in a clean bottle and shaken until the pyroxylin is dissolved. The quantity given above will coat one dozen whole plates. (3). Sensitizer: Nitrate of silver, 40 grains; alcohol, 1 ounce. Pulverize the silver in a mortar, then place it in a test tube, pouring the alcohol over it and boil until the solution is effected. It is then poured, in a fine stream, into the collodion, with constant stirring. The emulsion is allowed to stand for twenty-four hours in a dark room, being occasionally shaken. It is then ripe enough for use, and should have a creamy appearance. The plates to be coated must first have been given a substratum. They are then coated as usual, and when "set," washed in pure water until all greasiness has disappeared. They are then immersed in the preservative—stale beer, 30 ounces; pyro, 30 grains—and dried as usual. Before coating, the emulsion should be well skaken and filtered.

For Rapid Printing out, paper similar to the aristo, the following will be found to give good results: (1). Silver nitrate, 12 grains; distilled water, 13 drams; gelatine, 460 grains. Soak the gelatine in water, dissolve by heat and add the silver nitrate. (2). Dissolve lithium

(To be Continued.)

CORTINA, SWITZERLAND.

THE AMERICAN

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Distance Photography.

BY JOHN FRETWELL.

WHILE the news from Europe respecting the achievements of Dallmeyer, Steinheil and Miethe in regard to distance photography has awakened new hopes in those who, like myself, have often in the course of travel occasion to photograph inaccessible objects, and who still are unable to carry with them the cumbrous apparatus necessary for the use of lenses of 36-inch and more focal length, it is very tantalizing that even now, when the season for travel has commenced, we are unable to [illegible] the new lens. An article by Professor Burnham, of the Lick Observatory, Mount Hamilton, Cal., induced me to make some experiments in this direction with the lenses which I already possess, using for the production of direct enlarged images in a camera which would not permit an extension of more than 12 inches, first, the eyepiece of an opera-glass, and afterwards ordinary double-concave spectacle lenses, such as any optician will supply at 30 cents each. The accompanying pictures show some of the results. I hope other amateurs will be encouraged to improve upon my experiments.

Mr. Burnham gives a formula for calculating mathematically the various dimensions, and I have found this formula accurate by practical test.

Given the following dimensions, actually used in some of the views which I send:

F = Focal length of positive lens = 11 inches.

G = Focal length of negative lens = −4.5 inches.

D = Distance between positive and negative lens.

C = Distance at which dry plate must be placed behind the negative lens to obtain the sharpest possible image.

B = Focal length of lens, which must be used without amplifier to obtain an image corresponding in size to that obtained with the combination.

Then $B = \frac{F \times G}{F + (G + D)}$ and $C = \frac{B \times (F - G)}{F}$.

So $\frac{11 \times -4.5}{11 + (-4.5 + -8)} = \frac{-49.5}{-1.5} = 33$ inches, showing that the image given by the combination will have three times the linear dimensions of that given by the objective without amplifier, and $33 \times \frac{(11 - 8)}{11} = 9$ inches,

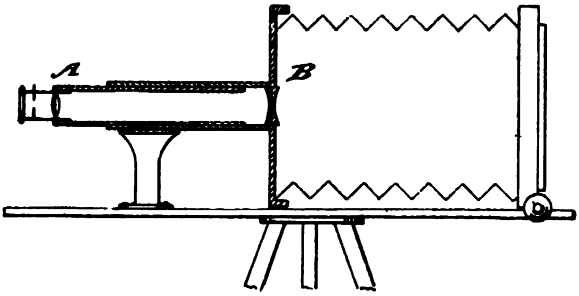

FIG. 1.

Fig. 1 is a longitudinal sectional view of the camera and telescopic attachment. B is the spectacle glass; A, double-convex, single objective with diaphragm in front. The tube is made of two pasteboard mailing tubes, one sliding within the other, lined with cloth. It is long enough to permit of an extension of 80 inches from ground-glass to the extreme front. The closer A is moved to B the larger will be the ground-glass, and vice versa.

Fig. 2 shows the adaptation of an ordinary field-glass to the camera for telescopic work.

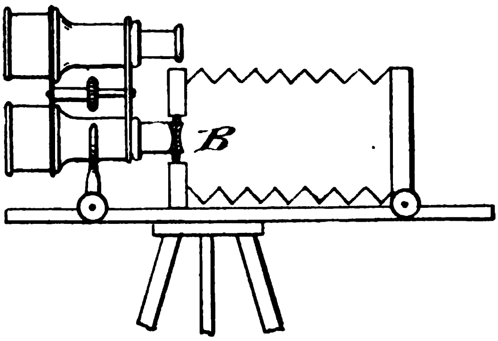

FIG. 2.

the distance between dry plate and amplifier, so that with a total camera extension of 9 inches, and tube of 8 inches extension in front of camera, we get a result equal to that which with an ordinary objective would require a camera extending 33 inches.

As to time of exposure. For the ordinary picture with 11-inch lens and stop F ÷ 36 I exposed half a second on Carbutt's slowest plate (marked Sens. 10), and on the same plate and with same stop, corresponding to F ÷ 108 for the enlargement, I gave thirty seconds' exposure on the enlarged views.

I have not been able to obtain an instantaneous picture even on the most rapid plates; but as I had to stop down considerably to correct, as far as possible, the optical imperfections of my lenses, it is possible that with lenses so corrected as to define sharply with large apertures, sharp instantaneous pictures may be obtained.

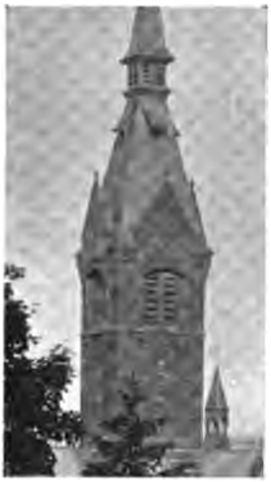

FIG. 3. ORDINARY SIZE.

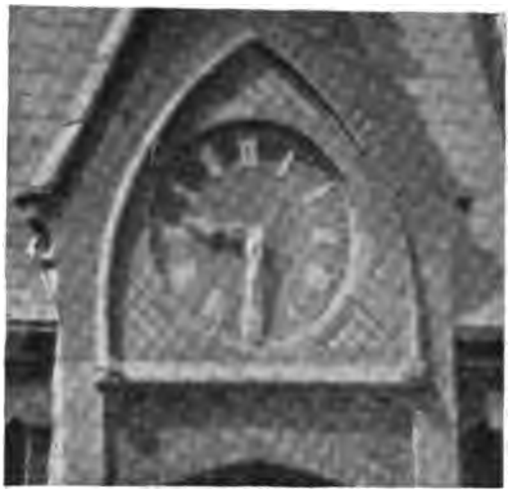

FIG. 4. TELESCOPIC VIEW.

Fig. 3. Taken with a 10-inch focus ordinary single lens. The clock was somewhat less than a fifth of a mile distant.

Fig. 4. Taken with spectacle glass and telescopic attachment, as in Fig. 1; distance between front objective and ground-glass about 19 inches. While the image is not as sharp as the original, yet it shows what can be obtained with such simple means, and is enough to demonstrate the feasibility of teleo-photography.

I learn from a German source than Steinheil has constructed for the Prussian Admiralty a lens which will do this.

Personally, I would thank Professor Burnham for showing to us amateurs what can be done with imperfect means, and trust that from his lofty point of observation on Mount Hamilton he will continue to favor us with the results of his experiments, which will be of as great advantage to the surveyor and explorer as those of his celestial observations have been to the astronomer.

The Color Screen in Landscape Photography.*

BY CHARLES L. MITCHELL, M.D.

THE value and use of orthochromatized emulsions in landscape photography are now fully recognized, but, as yet, there still appears to be considerable difference of opinion in regard to the necessity of the coincident employment of the color screen. It is stated by many of the manufacturers who at present supply the market with iso- or orthochromatic plates that the use of this valuable adjunct is by no means necessary, and that equally good results can be obtained without it. Having, during the past two years, made extended trials, for landscape purposes, of orthochromatized emulsions, coated on both glass and celluloid films, and during these experiments made frequent use of the color screen, a few notes on the principles and methods of its employment may perhaps be of interest. The class of subjects selected was almost exclusively landscapes, and the large majority extended landscapes in the mountainous regions of Switzerland, Norway and northern Italy, involving distances ranging from ten to one hundred miles. The first year the color screen was used sparingly, but the results obtained with it were so satisfactory that in the following year it was used whenever possible, and the success attending its use was so marked, and the quality of the work so far superior to the portion in which the screen was omitted, that I now am fully convinced that the color screen is an indispensable adjunct for any extended or comprehensive landscape work. The reasons for this opinion are not hard to find. It is a well-known fact that when an open landscape is photographed on an ordinary gelatine emulsion, two serious difficulties are always encountered. These difficulties bear such a relation to each other that the means employed to prevent the one always increase the evil effects of the other. I allude to the difficulty of obtaining even and harmonious exposures for both near foreground and extreme distance. The rapidly vibrating blue rays coming from the more distant portions of the landscape produce, in an extremely short time, a very powerful reducing effect upon the emulsionized silver salts, and that long before the more slowly vibrating rays coming from the nearer and generally darker foreground have had time to properly act on the plate. The consequence is that when proper definition, detail and color value have been obtained in the foreground, the distance has been so over-exposed as to solarize to a greater or less degree that portion of the image.. On the other hand, should the exposure be so shortened in time as to obtain proper values for the distance, the foreground is so hopelessly under-exposed as to be but an unmeaning smear of black, devoid of all detail.

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* Read before the Photographic Convention of the United Kingdom, Edinburgh, Scotland, July 14, 1892.

All kinds of devices have been suggested for remedying these difficulties. Sky shades, shutters having apertures of different shapes fancied to diminish to a certain degree the exposure of the sky and distance, etc., etc., have at different times been suggested, but none of these have proved of sufficient value to become popular.

The difficulties, as above noted, are particularly noticeable in the case of Alpine landscapes. Here, then, is often a foreground of rocks and dark pines abounding in dark greens and browns, and opposed to it a distance composed of brilliant snow-white peaks and glaciers standing out against a deep blue sky, varied, perhaps, with floating clouds. With an ordinary emulsion it is almost impossible to render properly such a landscape, as the foreground will be under-timed and lacking in detail, or else the peaks and sky will be so over-exposed or "burnt out" on the negative as to render the demarcation line between snow and sky almost indistinguishable. When, however, certain coloring agents are added to the ordinary emulsion, as is done in the process of orthochromatizing, an entirely new condition of affairs is brought about. I will not attempt to explain this in detail, for it has and will be done by much more able and qualified hands than mine. Suffice it to say, briefly, that while the emulsion is now, in its altered character, a little less sensitive to the action of the blue rays of the spectrum, it is more sensitive to the yellow, green and red rays coming from the opposite end of the spectrum. A plate of this character, when exposed to the same Alpine landscape as previously tried, would exhibit much more detail in the foreground, and the distance would be in much better tone. But, although the sensitiveness of the plate, as orthochromatized, is of a much less degree as far as the blue rays are concerned, they are so powerful that they still act too rapidly on the emulsion, and it is desirable to limit still more their effect. This is acccomplished by the color screen. A suitable colored medium—in this case yellow—is interposed between the object and the sensitized plate. This medium intercepts the passage of the blue rays to a certain extent, or diminishes the rapidity of their vibrations, and, while prolonging thus the exposure, allows the reds, greens, yellows, etc., to pass through without hindrance, and impress themselves fully upon the plate. The resulting image will now represent in much more accurate color tone, as expressed in black and white, the different values of the landscape, giving full detail and softness to the foreground, and showing in the distance white peaks against a darker sky.

For purposes of landscape photography the color screen employed should generally be of a light-yellow shade, except in some special few instances, when, to obtain particular effects in a landscape, colored screens of more or less of a red or reddish orange may be found to be desirable.

From this brief explanation the principles which govern the employment of the color screen may be made apparent, and on its very face the theory of its action would seem to be correct and of sound value. And I unhesitatingly assert that when the color screen is *properly* used, the results will, in every instance, bear out the sound principles of the theory. In landscapes, while full justice is given to atmosphere, the distant ranges of hills are as clearly defined as they would be to the eye; water which looks like water, and not an expanse of snow; foliage and verdure which show the varied shades of greens with which Nature bedecks herself; or the varied tints in an Autumn landscape, and clouds of white or pale gray floating on a darker sky, as we see them daily in the heavens. But a color screen should be used with judgment, as should every other photographic adjunct, if good results are to be secured—not for every subject, or for instantaneous work, or generally for objects close at hand, but for the special work for which its usefulness has been explained. Let us for a moment consider this and its practical features a little more in detail.

The first point to be considered is the color screen itself. This should be of glass, perfectly flatted and ground to a true surface, or else it will produce such an amount of distortion as to render it totally unfit for use. In England, I have been informed, one or two firms offer for sale color screens made of yellow pot glass ground and polished to a true surface. The only one of these I have been able to see was of so light a color, and that more of a brown than a yellow, that I should feel afraid to use it. The quality of others may be better. It is very easy, however, for any photographer to prepare his own screens, and of whatever color he may desire, by a process which I shall now describe.

Procure plate glass, thin, perfectly flat, ground, and free from all striæ or bubbles. The thin plate glass that is frequently used for making color-cells and animalculæ tanks for the gas microscope will be found to be excellent for this purpose. After being cut in small squares of the size desired (2½ x 2½, and 3½ x 3½, I have found answer nearly every purpose), a square should be flowed on one side, in the same manner as when coating a plate with collodion, with a solution of the coloring agent in amyl-acetate collodion. The coloring agent may be either "aurine" for orange-red, or any other coloring matter desired, provided it is soluble in the varnish. For the yellow screen I am in the habit of using an aniline dye, called "golden yellow," in the proportion of from five to eight grains of the dye to the fluid ounce of varnish, according to the depth of tint desired. It is permanent, does not fade to any extent, and gives a rich lemon-yellow screen. The amyl-acetate collodion, now extensively used in the United States for the purpose of lacquering gas-fixtures and brass-work of all kinds, is known in trade by a number of different fictitious names, such as "enameline," etc., etc. It is simply a solution of soluble nitro-cellulose in mixtures of amyl-acetate, ether, petroleum, benzine and alcohol, mixed in varying proportions. It can be easily prepared on a small scale by cleaning off the emulsion from a spoiled celluloid film, cutting the film up in small strips (soaking them well in strong alcohol to remove the camphor), and placing these in a bottle with a mixture of one part amyl-acetate, one part petroleum benzine, three parts alcohol and three parts ether, all by measure. The celluloid swells up and dissolves rather slowly, hence the bottle containing the mixture should be well shaken at intervals for several days. A better collodion is made, however, by dissolving good nitro-cellulose in the above mixture. When the celluloid is all dissolved, the liquid should be filtered through a little absorbent cotton to remove any loose flecks of dirt. This varnish gives a tough film, clear and free from transversed striæ, and is also an excellent material for varnishing glass negatives or positives, being perfectly waterproof. To resume, the glass square, after having been coated with the colored varnish, is allowed to "set" for a few moments, and then placed aside on a flat surface until the varnish is perfectly hard and dry. Care must be taken to keep it covered while drying, so as to avoid dust and dirt settling on it. The coated plate is now placed on a level surface, film upward, and sufficient pure Canada balsam (white and free from dirt) poured on the plate to make a pool in the middle of the plate of about one-fourth of its area. A fresh, clean glass square of the same size is next taken, and gently lowered on the balsam and plate in the same manner that a cover-glass is placed on a microscopic object, and then a gentle and even pressure applied until all air is forced out, and the two glass surfaces are cemented together with the balsam, and are in uniform contact. The cemented plates are now laid aside on a flat surface and allowed to remain several weeks undisturbed until the balsam has thoroughly hardened. Then the edges are cleaned off, the exuded balsam being removed with a little benzine or benzole, and the edges bound with some strips of lantern-slide paper. This color screen can be placed either before or behind the lens. If before, a special hood for each lens must be made to hold it. I, therefore, prefer to use it *behind* the lens, on the inside of the lens board, when it can be placed or removed in a few seconds. This can easily be arranged with two small brass or wooden cleats secured down on the inside face of the lens board, and adjusted so that the color screen can slide between them.

The next item is the subject. It is hardly necessary to say that moving objects and all instantaneous work are entirely beyond the scope of the color screen, owing to the length of exposure required. Moving clouds can often be satisfactorily photographed when the motion is slow, and the exposure made with the full aperture of the lens, from one-half to two seconds being generally sufficient. Large masses of annulus clouds, and also the lighter and more graceful forms of the cirrus, can be made, when at rest, to repeat themselves on the photographic plate with rare fidelity by the aid of the color screen. There are many days of the year when these remain almost quiescent in the sky, and, as no great stopping down of the lens is needed, a large aperture and short exposure will yield excellent results.

For ordinary landscape work in close proximity to the subject the use of the color screen is unnecessary, unless some special conditions of color exist. Still life, fruit and flower subjects, however, are especially fruitful fields for the color screen in conjunction with the orthochromatic plate. Here time is of no importance, absolute sharpness and fidelity of detail can be secured by stopping down the lens, and, with a full exposure, every feature of the object will be reproduced. The principal use of the color screen in landscape photography, however, is in field work, especially where extended country, and often extreme distance, are concerned. Here the color screen is an *absolute necessity* in order to secure uniform and satisfactory results. I have photographs in my collection taken from the summit of the Furca Pass in Switzerland, where, while the foreground is harmonious and full of detail, the Alps of the Mt. Blanc and Monte Rosa group are distinctly visible, although at least sixty miles distant. I have also noticed that the use of the color screen, when photographing in both Switzerland and Norway, has given much more brilliancy to the dull monotone so often noticed in the photographic rendition of long stretches of bare mountain side, it seeming to differentiate and accentuate the different tones of browns, dark grays and greens, so prominent in such landscapes. In fact, I have grown to rely so much upon the color screen in photographing these extended views that I fear no landscape, no matter how extended, provided it is properly lighted, and I think I can show as satisfactory results for such subjects as it is possible to compress into the limits of a small photographic plate.

A word may be also said just here in favor of the use of celluloid films. Glass is as yet undoubtedly the most perfect medium of support for the photographic emulsion, but it is heavy, liable to break, and for distant landscape work apt to show halation. This latter, it is true, can greatly be prevented by backing the plate, but it is a tedious, dirty process, and involves infinite trouble. Celluloid, as now prepared in the United States, is rapidly taking the place of glass for tourist's work. It is now manufactured almost free from defects, and is so light and portable that a gross of 8 x 10 size will take up no more room and weigh no more than one dozen of the same size of glass plates. It cannot be broken, and, moreover, is almost entirely free from halation, owing to the thinness of the film and the consequent absence of reflecting surfaces. To illustrate its advantages, I may say that last Summer I took a three months' trip through Norway, carrying with me, in a small Norwegian trunk, together with my clothing, sufficient material for six hundred 8 x 10 exposures. The weight of these films was about thirty pounds ; the same amount of glass plates would have weighed over four hundred pounds—an almost insurmountable burden, unless one traveled with a baggage train.

It remains to say a few words concerning exposure and development. Exposures for orthochromatic plates should *always* be fully timed to secure soft and harmonious negatives. An under-exposed orthochromatic plate or film is much more inclined to fog on development, and is much more harsh and lacking in detail, than an ordinary plate of the same speed would be if subject to the same conditions. On the other hand, the orthochromatic plate, and even more so the film, will bear an amount of over-timing which would simply be ruinous to an ordinary plate. When a color screen is used, the exposure should be prolonged eight or ten times, and my friend Mr. F. E. Ives, who is world-celebrated for his researches in color photography, has assured me that twenty times is none too much. I have no doubt some advocates of rapid exposures will be shocked by this statement, but when we consider the retarding effect of the color screen, the amount of "leeway" in exposure is in consequence immensely extended. In all such work plenty of time in exposure is necessary to obtain full detail. The distance will take care of itself, so will the clouds, and unless there is a brisk wind blowing they will show up all right in the negative. Furthermore, in overcast and cloudy weather, exposures on orthochromatic emulsions, either with or without a color screen, must be greatly lengthened, much more so than for ordinary emulsions under the same circumstances. For instance, if I gave two or three times the exposure (using an ordinary plate) on an overcast day that I would on a bright, clear day for an orthochromatic plate (using no color screen), I should give from *four* to *eight* times the exposure, and if I did not do so, I should get an under-timed plate. If a color screen is used in addition, the exposures should be increased proportionately, as previously mentioned. Most of my failures with the color screen and orthochromatic film have been from this cause—under-timing on cloudy days. There seems to be, under these circumstances, an absence of certain light-rays in the atmosphere (yellow perhaps), which ordinarily affect more quickly the orthochromatic emulsion. After I discovered this I have frequently, after making an exposure the time of which I had judged should be ample, made a duplicate exposure, in which, for purposes of experiment, I doubled the exposure, and almost invariably the longer-timed negative came out the best.

Finally, a word or two may be said regarding the development of the exposed plate or film. The developer used must depend largely upon the purposes for which the negative is to be used. If for bromides, lantern-slides or transparencies, my preference is for the mixed developer of eikonogen and hydroquinone, it giving negatives possessing the full detail and quick-printing qualities especially requisite. For platinotype, plain silver and kallitype, I am growing to believe that pyro gives perhaps better results.

The steel or blue-gray image produced by the mixed developer gives a density which seems greater than in fact it really is, and in printing processes which tend to diminish contrast it will not give as brilliant and "plucky" a print as will the slightly yellowed pyro-developed negative.

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Amateur Photography in America.*

BY CATHARINE WEED BARNES.

IT will be impossible to enter fully into the question of amateur photographic work in America, and I shall not attempt it; but in considering a subject which necessarily involves comparisons between English and American work and workers it is well, in all fairness, to have some clear idea to start with of how photography is pursued, and the opinion entertained of it in both countries. At present (and this is said advisedly) the English have the advantage, at exhibitions, of a higher general average of work, though I do not know if it is the case, as with us, that many good pictures never reach the exhibition hall.

The amateurs in England and in Europe generally seem to believe in what they are doing, and consider it worth while to give the work proper time and care, working hard, if need be, to insure good results, and this is half the battle. There are too many what might be called snap results with us, and the camera is still looked upon largely as a means to kill time, not worthy of respect for its own sake. We are too anxious to do things quickly, missing often thereby what only comes from patient, long-continued effort. There are instances among our workers of almost infinite patience and determination to show what photography can achieve in art, science and general education, and such are filled with an enthusiasm which enables its possessor to think only of the end in view, and bend everything to accomplish it, regardless of mental or physical fatigue. The old painters were ignorant of many of our modern canons of art, but they had a worship for the thing itself, too often wanting in our utilitarian age, and the same may be said of photography. Altogether too many workers begin and end with "detective" cameras. Why? Because there is a delusion abroad in the land that they are no trouble, require no brain exertion, are always available, and the user need not look upon his instrument as anything more than a toy. He generally expects, however, this same toy to possess all the photographic virtues of the widely differing branches of work. Beginning with clean, well-lighted portraiture, for instance, through the gradations of soft, atmospheric landscapes and marines, brilliant snap shots and carefully managed interiors, it is expected all these may be made in the fraction of a second, and, of course, with a single-view lens and cheap camera. I once received a letter—not at all an unusual one in my editorial correspondence—wherein the writer took several pages to explain what he wanted a lens to do, each requirement contradicting some other, and asked me to recommend a cheap one. My answer was that no such lens as he desired had yet been invented. The American worker, especially in small towns, is very often unable to purchase more than one lens, and yet is anxious to cover the whole photographic field. In such cases I always discourage hand-cameras, as, under the best of circumstances, their results cannot fairly compete with tripod work, not merely because the latter is better in itself, but after taking the necessary trouble of setting up such a camera one is apt to take more pains with the picture. Until one realizes all the possibilities of time exposures he does not begin to appreciate photography at its true value. A very encouraging sign of progress with us is the increasing number of organizations devoted to camera work. Hardly a week passes that a new one is not started ; and their reports, as sent to our sanctum, show a constantly widening horizon of comprehension regarding the different fields of photographic usefulness being entered upon by workers in different professions. Physicians, painters, scientists of all kinds are utilizing the vast help photography can give them, and are realizing also, aside from that, the great and almost mysterious fascination it can exert, independently, on its own special account. A celebrated painter told me recently that he occasionally used an ordinary snap camera, not daring to attempt any of the actual work, or he should neglect his regular painting. I cannot but feel that to do camera work well, through all its countless ramifications—and what is worth doing at all is worth doing well—one must get rid of, and put behind him once for all, the idea that its limitations are as narrow as the illiberal prejudices of the past have settled upon. It is far harder to live down a prejudice than a principle, and that is just the task that lies before photography.

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* Read before the Photographic Convention of the United Kingdom, Edinburgh, Scotland, July 13, 1892.

Experience, however limited, has taught me that when a certain effect is gained in photographic work which at all departs from an ordinary photograph, if one attempts to help others by telling how it was done, his effort is looked upon as if he took his auditors behind the scenes at a theatre, and showed them how certain theatrical effects are produced. Probably the same thing is true on this side of the Atlantic. A camerist should, above all things, never apologize for anything which will improve his results, because negative or print has been, as the unregenerate term it, "doctored." If a painter refuses to recognize the existence of an obnoxious element which would spoil his picture, and simply leaves it out, why cannot the photographer use the only means at his command and obliterate the object, whether on negative or print ? Why should one be considered genius and the other a trick? The American public, as yet, has not been able to realize that photography has risen far beyond the high-tide mark of a generation ago, indeed that it is still rising. They are, as a rule, more anxious for something new than for steady progress in the work ; but attendance at recent exhibitions has proved to me that photography is winning a high place for itself, if its followers will insist on not lowering its flag to the level of a trade, but keep it where it belongs, among the arts and sciences which are elevating the general education of the world.

One great cause for the success of European workers at our exhibitions is that we do not give enough consideration to the choice of a subject. We have not the wealth of historic scenes which the old world furnishes, and landscapes, *per se*, pall on one's attention in large numbers; but we are doing something, I am proud to say, to preserve a record of the historic landmarks we own, before the so-called march of improvement destroys them, to say nothing of also keeping a record of passing events, which afford an important field for camera-workers. One of the societies with which I am connected has an historical section, whose members are detailed, when any specially important event occurs, to photograph it from different standpoints, thus obtaining a large and varied collection of prints in a comparatively brief time. About a thousand negatives were thus obtained at the centennial celebration of Washington's inauguration as President, which will eventually be of great value. This society's badge entitles the holder to entrance within the police lines at fires, parades, etc., and to work in the city parks. Both the large New York societies also give their members special privileges. This idea as to historical work is spreading among our societies with excellent results. The Chicago workers ought to take up seriously the matter of photographing at the Exposition, and a general protest is likely to be made against what appears to be the somewhat arbitrary ruling of the authorities. Permission should not be indiscriminately given, but under restrictions.

I have not been able to procure statistics as to the number of clubs in our country, but have visited many of the leading ones from New York to California, finding that, as in the case of the Boston Club, with its fine studio and meeting room, each has some special advantage, but none offer better working facilities than the New York and Philadelphia societies. The New York Camera Club talks of a special club-house, with separate studios, dark-rooms, etc. A desire is spreading among the clubs for more practical instruction than is given in papers or discussions, and nowhere is this better shown than in some of the smaller clubs. The idea, so general here, of camera trips during the Summer, is also gaining in favor with us. Women are admitted to membership in the greater number of our clubs, and in some of those who still hold out in the good old way, their work is hung at exhibitions, their lantern-slides shown on the screen, and I have spoken before several clubs which do not as yet admit women members, agreeing, perhaps, with a gentleman friend of mine in one such club, that a photographic society should be considered merely as a sort of masculine boudoir. Women workers are increasing rapidly among us, and it is only a question of time when they will be generally recognized as mentally fitted to improve the educational opportunities afforded by a club. Working by one's self encourages a narrow, prejudiced manner of judging one's methods and results, and women as well as men need to have their rough edges taken off by the sharp attrition of severe criticism and discussion. We have in America what we call smoking concerts, which women, even if active members, do not attend, and it is only occasionally that a pipe or cigar is seen in the ordinary meetings, never at general entertainments. In the dark-rooms the stall system is largely used as being more private, but the printing and slide-work are done in a large room. Quite a number of our leading workers have their own developing rooms, and even portrait studios. In my own case, after making a portrait exposure and developing the negative, I take it to a professional friend of mine, who retouches when necessary, and then, unless in special instances, the sitter orders from and pays him for what prints are desired, the negative, of course, being held by me. I have not time to make so many prints, and sitters would not realize the extra labor involved, besides valuing the pictures more if obliged to pay something for them.

In landscape work the English have an advantage, rather than disadvantage, in their unduly blamed climate, far better atmospheric effects being gained than in our clearer air, but they, as a rule, use heavier cameras than Americans. We rarely use an imported one a great while before beginning to make improvements in it, and, first of all, making it lighter, carrying the latter point even to excess. English cameras, unless of specially seasoned wood, are apt to warp in our drier climate, and I do not believe in, and certainly never saw, a single American worker using a wooden slide in his plate-holder.

Most of our finest cameras are made to have the ground-glass keep its position, even when the holder is slipped into place, and the tripod top is made distinct from the camera, which latter I am not sure is an advantage.

Practical demonstrations and clear, plain talks seem to be most enjoyed at our society meetings, and when papers are read it is a rare case when the lecturer is not afterwards called upon by different hearers to explain various points still farther.

Dry plates are most generally used, though a few cling persistently to the wet process. One amateur I know of who coats all his lantern-plates, and another, in preparing his, takes into careful consideration the special purpose for which they are to be used.

Only a few of our manufacturers make slide-plates, and as I consider it somewhat unwise to make them more rapid than the English ones, which actual demonstration has proved to me is the case. It is claimed that slide-making is losing in interest, but lantern entertainments are always well attended, though the audiences seem to pay more attention to the subject of the slide than to its technical or artistic merit. We trust that European workers will in time see the advantages of our size negative and slide-plates and that there is no actual need of using such very heavy cover-glass. International exchange of slides is an idea worthy of cultivation, and is of value specially in encouraging all to do their best. Several of our amateurs have experimented in camera-making, and of shutter attachments there is no end. Our national fonduess for haste has found a new vent in a kind of craze for instantaneous (I use the word under correction) pictures of racing, athletics, scientific experiments, etc., but, on the other hand, that same tendency leads us to constantly invent practical, labor-saving appliances, wherein I claim we hold high rank, and many of our best workers have either personally made many such or suggested them to some manufacturer, while one amateur has invented a shutter which allows several exposures per second. Orthochromatic work (or I should rather say color-sensitive) is receiving more attention than formerly, as the plates improve. They were supposed to be very difficult to develop, but at some of our very recent exhibitions remarkable results from them have been shown, especially as regards flowers and delicately tinted drapery. As is well known, Mr. Ives is the only one among us who has succeeded in demonstrating what is hoped for from color photography, but even yet he has a difficult task before him. Ordinarily, we depend for our finest lenses on foreign makers, but there has been a new one placed recently on our market by a New York amateur, which, in the way of reducing harsh contrasts and allowing the shadows and half-tones to appear as in the gradations of nature, practically enters the field of orthochromatic work. It has a violet-color attachment which can be screwed into the place of the rear combination of the maker's rapid rectilinear, wide-angle or portrait lenses. It slightly increases the time of exposure, and the eye is at first disturbed by the use of the colored instead of colorless lens, but the results are remarkable, especially with portraits. The makers are also busy with a tele-photo lens similar, in some ways, to Dallmeyer's and Miethe's.

There is a reluctance with us, as in England, except among those amateurs who have been given over as incurable, to carry a size camera which will permit the picture to properly represent the view photographed. Even when intended for use in the lantern, the picture-takers too often prefer contact slides, simply, it would seem, because their physical strength is really or apparently inadequate to the carrying an 8x10 or 5x7 camera for the negatives, to say nothing of the extra exertion of reduction ;

but, as the French proverb says, "That which costs nothing is worth nothing." With regard to developers, many of us like hydroquinone, more still like it mixed with eikonogen, and others eikonogen alone, though I believe the majority, for regular work, prefer pyro and soda, as ammonia does not seem to agree with our plates. It would seem a good plan to test each new developer as it appears, for then, and only then, can the worker be really justified in making a choice. A number of our workers are expert chemists and always prepare their own developers, not pinning their faith on ten per cent., or any other made solutions. As one of our writers has said, "A fool or a folly is no better for being an old fool or an old folly," and if any method of work or modification of it suits our purpose, we do not wait until it is overgrown by the moss of tradition before recording our acceptance. Film rolls are much used in hand-cameras, though magazines are preferred by those who keep to glass plates, and their number is increasing. Albumen and other glossy-surface prints have been most generally used, though they are being superseded with our amateurs by the various matt-surface papers, especially bromide and platinum.

The question of exhibitions is not yet considered, as it should be, a valuable factor of photographic education, and we do not have enough of them. I cannot but wonder sometimes that judges are found willing to face the almost certain blame attaching to them, no matter how conscientious they may be. They are fallible—very much so—like most of us, and naturally praise what seems good to them, whether the general verdict agrees with theirs or not. The true benefit of an exhibition is gained when one ascertains not merely wherein his work excels, but wherein it is deficient. The general impression is growing that boards of judges should not be formed exclusively of either photographers or artists, as each is apt to be influenced by the prejudices of his own special education.

When will it be understood, both sides of the Atlantic, that photography in its dual nature of art and science is not necessarily a house divided against itself, and why is it not possible, as in the story of the gold and silver shield, to look at the question from both sides? Americans have not shown their full strength at European exhibitions, largely because notices of such rarely reach us in time for us to prepare and send any special work, and some international arrangement ought to be made, certainly on our side, to obviate the annoying delay in the custom house. But I do not propose to discuss the tariff question.

Photographic literature should not be entirely passed over, and its importance is shown not alone in journals especially devoted to its interests, but by the way in which it is leavening our whole American literature. The daily press in many cases publish a photographic column, constant references are made to the subject, and many of our magazines give considerable space to articles on the work, or illustrate their pages from the results of the camera. Even the way in which the newspaper reporter attempts to be humorous on the subject shows a general interest in it. We have several magazines devoted to photography, professional and amateur, and they have a wide circulation. Our readers demand a great deal, being very particular also how it is presented, and those who undertake to furnish food for the average photographic brain have by no means an easy task.

It is often asked me if photography is not dying out, but I can most positively declare that with us it is most constantly growing. There are almost daily inquiries of everyone who is supposed to be an authority, as to instruments and methods of work, and it rests with our great army of amateurs to make their own place in the world.

Believe in what you are doing and people will believe in you. The work should be followed not merely for personal credit, but for the work's sake and its value as a mental and moral education. I am glad that America has several representatives at this Convention, feeling it will do much to strengthen the bond of comradeship between kindred bodies of workers. There should be only a sense of generous emulation on each side, and the tie of relationship not be weakened, though the ocean lie between us, for each can and should gain by mutual help.

As our great poet Lowell says:

> "For mankind are one in spirit, and an impulse bears along,
> Round the earth's electric circle the swift flash of right or wrong.
> Whether conscious or unconscious, yet Humanity's vast frame,
> Through its ocean-sundered fibres feels the gush of joy or shame,
> In the gain or loss of one race all the rest have equal claim."

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Photography in Relation to Painting.*

BY ARTHUR BURCHETT.

IN commencing this paper on "Photography in Relation to Painting" I feel that I cannot do better than give the definition of both painting and photography.

Painting is a representation of objects on a flat surface, painted by the hand by means of brush, pencil or other tool being under the will of the artist, unrestricted in fancy, subject, color, form, place or period.

Photography is a representation of objects on a flat surface, restricted to the absolute reality of form present, as rendered by the lens on the sensitive plate in the camera, being only under the control of the photographer in development and in *choice* of subject, form, place, focus and length of exposure, and in some few cases light and shade.

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* Read before the Photographic Convention of the United Kingdom, Edinburgh, Scotland, July 13, 1892.

Such being the definitions of painting and photography, we can now see how very limited are our resources in photography, compared with painting, for producing a picture that shall have qualities that give it an art value; for it is not a mere transcript of nature that we require, but a picture containing some sentiment or idea that shall give pleasure to those who see it, and in nature there is in both figure and landscape an endless wealth of beauty that we can render if we see nature with the knowledge of what the camera will do and what it will not do.

Photography being limited to reproducing the objects present without color (which in painting is often its chief charm), we must, therefore, find out how near photography approaches painting by comparing reproductions of paintings with the work of the lens. Unfortunately, photography is severely handicapped by the inability of the sensitive plate to render the true tone-value of all colors, and this inability adds very much to the difficulty we have in judging Nature as she is represented in the photograph and in painting; but even with this defect the result in photography is very close to the true rendering of Nature, and will be even more so in time as photography advances. I need not point out the defects of photography with regard to rendering color into black and white, for we all know them.

In painting, certain colors have a different tone-value to some artists than to others, and when their pictures are rendered into black and white, fail to recognize the likeness of effect to that of the painting.

Both in photography and painting we have to consider, in the construction of the picture, the possibilities of its being a success, its story, composition, light and shade, and all the various items that make its being. A painting or photograph must have some reason for existing, some object or story, and this must be the one thing that all else is to be subservient to. In a picture the artist tries all he can do to keep your attention fixed on his principal figure or object, and to do this keeps all his, what we call "focus" on it, and all else is kept down both in tone and sharpness, so that the eye shall not wander away and become confused by the surroundings. Many pictures and photographs are spoilt by the want of concentration of interest, simply by forgetting this simple rule in painting—by over-elaboration of unimportant objects, brilliant color or strength which kills the principal object in the picture; in photography by microscopic focus, which puts everything on an equality with the principal object, accentuating things that are unseen by the eye, for the eye sees the thing that is, not what it is made of; a tree is made of many leaves, branches, etc., but the eye sees them as a mass of foliage, not as individual items.

Many pictures are spoilt by want of contrast of light and shade, for it is a well-known rule in art (and art applies to photography as much as painting) that except in exceptional circumstances there shall be no accessory object lighter than the principal object of the picture, or if that is dark, darker than this object. In this was the secret of the great success of the old Flemish artists, Rubens, Vandyke, Rembrandt, etc. Both photographers and artists cannot do better than carefully study the way in which these masters have managed the light and shade, both in portraiture, figure and landscape.

The next thing to consider is the composition or arrangement of the figures or objects that constitute the picture or photograph. In painting this is comparatively easy, as the artist can place his figures where he pleases, and use any kind of composition. But the photographer is entirely limited to a more or less equal plane of focus, owing to the distortion the lens gives in figure subjects, for what is simple foreshortening in painting often becomes absolute distortion in photography.

Composition not only applies to the arrangement of the figures, but also to the light and shade, which must be so managed that it gives value to the lines of the figures, and in figure and landscape pictures so combine them that they become as a whole. With pure landscape photography composition is impossible, as you cannot arrange your objects; you can only select a view, and can only use the knowledge of composition to help you to choose the best view. In landscape and figure pictures very much can be done in photography, but you are limited to simple arrangement in a selected landscape, which has to be taken just as it is, and which in painting would be so altered and arranged that it would carry the lines of the composition in harmony with the figures.

Light and shade in landscape, which are so important in painting, are quite as important in photography; but here again we cannot arrange like the artist, but are quite dependent upon the effect at the time of exposure, which can sometimes be chosen. It is a very great misfortune that photography will not render the true effect of cloud and sky combined with landscape, for until this is possible we must depend upon the sky from another negative, which more often than not is entirely unsuited to the landscape, and also is, as a rule, printed far too heavy.

In painting, besides the great charm of color, the artist has one which is perhaps greater—that is, "ideality," or the rendering of the image of the mind as opposed to the reality. Idealism in painting often merges into mannerism. There are many living instances of this—the weary repetitions of the same form and the same effect. In photography the danger of mannerism is greater, as if we use the same stop to the same lens and the same printing method, our photos must necessarily look more or less alike, only the difference of form. I suppose it will always be so, at least, with the majority of workers who only have one lens. Painting is very much like handwriting — one can recognize the author — but photography changes in character with every different kind of lens, so that it ought to be possible to escape from the more glaring faults of mannerism.

Impressionism must not be confounded with idealism, for impressionism is the rendering of the way the objects or scene appeal to you — how you see it; whereas idealism is the correcting or altering nature to suit what you consider true beauty.

Impressionism in photography is not only possible to a very large extent, but the results are very beautiful, and *do* depend in a very large measure on the artistic aptitude of the photographer and the knowledge of his lens; and though, to those who are unable to see the beauties of nature (and they are legion), it may appear entirely chance work, yet those who, using knowledge both of nature and photography, know that the results are precisely those that were aimed at.

And now we come to what is considered to be the great strength of photography — its imitation of form. In painting it is often color that expresses form; such as grass, sand and many other things. There the color tells what it is, and the mind is satisfied; but in photography, unless there is a *sufficient* indication of form, the representation is vague and leaves the mind wandering and unsatisfied. It is therefore necessary to the proper understanding of a scene or object that the definition of form shall be such that the objects are recognizable; but how far it should be carried is entirely a matter of individual feeling, for, as in the case of idealism, the perception of form is in the mind. To one person form is soft and without line, to another the feeling of form is so strong that he can only express himself by sharp outlines; it is only a matter of thought, for in nature there are no outlines. The impression of nature is to me a soft blending of color and tones quite unlike the rendering given by what is termed "a nice sharp photo." One of the great difficulties both painters and photographers have is the introduction of figures into landscape so that they shall not intrude or attract the eye from the motif of the picture. As a rule, we find in the best landscape pictures that if a figure is introduced it is placed in the middle distance, and is used more to serve as a known size to give grandeur to the landscape. Turner was a master at this, and though he defined this method in some of his pictures by placing the figures in the immediate foreground, yet he did it so well that they appear away from where the spectator stands, and therefore practically in what is the middle distance. Of late years it has become more the fashion to introduce figures in the foreground, so as to give a title to the picture, but it is very difficult to do so without sacrificing the landscape to the figures. Of course these remarks do not apply in the case of what are called "*figure* and landscape subjects," for there the figure is the important object and the landscape only accessory.

I am afraid that my paper will not be considered complete unless I make a few remarks on motion as rendered by the camera and by the artist. I know that it is dangerous ground to tread upon, but I must needs venture.

In the expression of movement in painting, the artist does not endeavor, like the photographer, to obtain a perfectly still look or an action that he cannot see, but such an action that shall express the characteristics of the movement he wishes to represent, whether it be running, leaping, falling, etc., and obtains that look of movement not only by the position of the figure, but also by means of flying drapery. Now, in pictures by many of the great masters this drapery is painted in indistinct folds *purposely* to give the effect of movement. There is a very fine instance in the National Gallery, London, "St. George and the Dragon" (by Tintoretto), perhaps the finest example of movement ever painted. To say that movement must be expressed by movement expresses what I wish you to understand. In this picture not only do the figures seem to be moving, but the drapery vibrates; but still it has not the same kind of look that photography gives of the blur of movement, but is of a character that I am afraid photography can never imitate. Another instance of the rendering of movement is Vandyke's drawings of the condemned being cast into hell. The mass of humanity seem to fall headlong. The effect of movement is indescribably true. When an artist looks at an instantaneous photograph of the movement of a figure the chances are that he has never even dreamt of that representation being what it is intended to represent. The very fact of its being a *perfectly* arrested action takes away all sense of movement and makes it only a pose. In landscape the expression of movement cannot be expressed by a perfectly sharp image. How often one hears the remark "This is not good, as the trees have moved!" Yet to an artist it is often the best quality that photo possesses. Turner, the great master of movement, always got the effect of wind in his trees, waves and sky by indistinctness of detail.

Sea and sky in photography are often perfectly representatives of movement. One need only see one of Dresser's seascapes to acknowledge this; but there are many other photographers who only give the arrested motion the stillness of death, for it has the form but not the breath of life.

The imitation of Nature should be in photography what artists have endeavored in all ages to paint—that is, the life of Nature—not as a still, sharp, microscopic image (for the time is past when we were content with seeing Nature under this false light), but as a representation of life as seen by the eye; for what is false to the eye cannot appeal to the mind. It may be a perfect photo, as far as exposure, development and printing can make it, but unless it has that something which truly represents the life of Nature, it is worthless in an artistic sense.

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Individuality in Photography.*

BY H. P. ROBINSON.

IN a recent number of *Blackwood's Magazine* an ingenious writer tries to show that the one thing more than another that now represents primitive man is the baby, and that the nineteenth-century British baby differs very little from the savage child of (let us say) a couple of hundred thousand years ago, for the baby is nearly a quadruped, and is a reckless creature, devoid of conscience. It is, perhaps, a knowledge of the fact that babies are all alike that enables photographers, as it is libelously said, to make the negative of one of the species satisfy the yearnings of many mothers. Now, photography is certainly somewhat like this view of the human race in the respect that its immature productions are all alike, and it is not until they grow up and acquire a conscience or soul that they differentiate and show individuality.

Of the immature there is no end, but a wise and invariable provision of Nature checks overproduction. Nature is always wise, but has no mercy:

"So careful of the type she seems,
So careless of the single life;"

and, seeing that the world would be overwhelmed by immature photographs, sent beneficent fading to destroy them (always, as in other departments of Nature, "so careful of the type," sparing a few), until the art grew old enough to possess a soul or conscience, and then permanent methods were given to us; and even now we sometimes feel inclined to paraphrase the wisdom of Mr. Whistler, and say modern photographs do not fade, and therein lies their deep damnation. This wonderful preservation of a few in all their pristine freshness is suggestive of a special providence; for, according to the scientists, who are, of course, always right, like methods should produce like results, and not one of the old prints should have escaped.

Now, evidence of soul or conscience in a picture is art. Yet there are those who will not recognize that we have a soul, but, like Mr. Gilbert's mechanical figures in the "Mountebanks," are only stuffed full of badly made machinery that sometimes runs down and always moves with a jerk; and I'm not sure we are not suspected of trying to adopt the "put-a-penny-in-the-slot" business in the fine arts.

It is a favorite reproach with the opponents of photography as a picture-maker that its results are all alike; it is one of the triumphant proofs of those who will not admit that photography is an art, that the unthinking machine makes all its products to the same pattern; that there is no intrinsic evidence in any photograph of its maker. They will no more believe the plainest evidence to the contrary than those of old would believe the angels. They say we are mechanical, and it is of no use pointing out that this wild assertion is obviously untrue; we hear it over and over again, sometimes from one who knows that it is not true, and from others who are simply ignorant and cannot learn. These are to be pitied. Then there are those whose purpose it serves to deny; and, worst of all, those who have tried, and altered their faith because they failed—those who, as the poet says, "fade away; and, dying, damn." To the credit of photographers, there have been very few of these; however, we have lately had an exhibition of one of them. A most enthusiastic defender of photography as an art, of a few years ago, but who, perhaps, failed to prove it in his works, was politely asked to contribute to a recent exhibition, and is reported to have replied as follows—it is a lesson on the mutability of things to compare this letter with his former opinions: "I am fully persuaded that photography is not art nor can be, and to encourage exhibitions is to lead a lot of vain people to waste their time in the practice of a useless and vain pursuit."

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* Read before the Photographic Convention of the United Kingdom, Edinburgh, Scotland, July 13, 1892.

It has no effect with the prejudiced critic to point out that if different minds using the same machines produced like results invariably, as machines are expected to do, any one of them who understood the machine ought to be able to turn out a series of masterpieces equal to the best that have ever been produced, always providing, of course, that one machine was as good and as well brass-bound and French-polished as the other. Yet they continue to say—and this is one of the latest utterances of science: "The picture painted by the artist is a transcript of his own emotions, but a photograph is not a reflex of human emotions at all—unless, indeed, accidentally so—but is a direct reproduction of Nature, and only through science, the offspring of man." We must be grateful to the writer for allowing us the accident.

I am quite ready to confess that up to a certain point, and in the hands of the ninety per cent. of the followers of the art who are not artists, the photograph is in the process, but with the others the picture is in the man (as in painting, only in a less degree, and as far as the materials will allow). The process takes a very subordinate place, and is dominated by the taste, thought and feeling of the artist, when an artist uses it with what may be fairly called emotional results. Who has not laughed with many of Rijlander's characteristic heads, or wept?—yes, I have seen even that emotional result produced by a photograph (which was not an accident); and it is an important part of my argument that all these emotions arose first in the mind of the photographer, and would never have been originated by the same models in the hands of another photographer.

Of all the attempts made to prove that photography was not an art, that which would have most force, if proved, would be that it showed no evidence of individuality; but, on the other hand, if the possession of that quality were proved, it would be one of the strongest arguments in favor of the admission of photography to the brotherhood of art, for individuality, in its products, necessarily implies the operation of a directing mind behind the "soulless camera."

The latest of the many attempts to define the meaning of the word "art" is a very remarkable one. It is said to be "The apparent disproportion between the means employed and the end obtained." And, as an illustration, the following explanation is given, at which, I think, many a practical photographer will smile:

"Admit, for argument's sake, that a photograph reproduces with a fidelity far beyond anything that the hand of man can attain to, it must still be allowed that the means used to attain this end are infinitely more complicated than the few hairs tied to a stick which the artist uses. Indeed, it might be argued that, if *art* is the apparent disproportion between means and end, photography is not an art at all, but science. There is no art on the part of the lens when it produces its images; it does so strictly in accordance with natural laws. The developer acts as thoughtlessly as any other chemical experiment, and these are the chief factors in every photograph. It is true you have one small part to play—you must have the *art* of exposing properly; but even here a few shillings will purchase for you a machine to do even this. I do not admit art in development. Art in development is only called in when the exposure has been made without art, and, as I have already allowed art in exposure, I cannot allow it here again. With such an infinitesimal part of the picture the outcome of art, is it honest to call a photograph a work of art?" Are we to understand from this singular piece of reasoning that painting is an art because the painter uses "a few hairs tied to a stick?" and does the writer suppose that we claim photography as an art because of its fidelity—that heritage of the youngest amateur? This curious example of scientific knowledge of art is by Dr. J. K. Tulloch, of Dundee, and was written in the present century.

Some writers get confused between degree and kind. In an article in the *Magazine of Art* a certain writer who was once a photographer endeavors to show that photography cannot become art because its individuality is limited. That it is more limited than painting has always been admitted—we cannot get so far away from the truth as is the painter's privilege—but it is also admitted that all methods of art are more or less limited, and the amount of limitation is only a matter of degree, not of kind. The limitations add to the difficulty, but do not alter the status.

Let us run back a little and see if we can find a few workers whose results are totally different from those of their contemporaries, and this invariably. One of the earliest photographers to show genuine art feeling in his work was Rijlander, who died sixteen or seventeen years ago; yet, among the many thousands of photographs, it does not require much experience to recognize a Rijlander. There is nothing in the manipulation to distinguish them, except, perhaps, carelessness. It was the mind of the man that was visible; you recognize the man beyond the process. There are still those living who can say, on looking at a collection of old photographs, this is a Francis Bedford, a Dr. Dimmond, a Teuton, a Delamotte, a Le Gray or Silvy, a Wingfield or a Mrs. Cameron, certainly quite as accurately as an expert in painting would say this is a Raphael, or Titian, or a Correggio. Then, what becomes of the machine argument?

I will now endeavor to put it another way. Photographs, as I have endeavored to prove, show the mind of the producer—when he has a mind to show—and given two equally gifted photographers, as far as equality can be measured, the one could not produce even a colorable imitation of the work of the other. Neither could dismiss his individuality, let him try how he may. Take two representative men, Rijlander and Bedford. Neither of these accomplished photographers could have imitated the other. They had both original minds and followed the bent of their genius, and their hands, as well as brains, showed in every picture.

Among the workers of the present day I could point to dozens of well-known instances, but one or two must suffice. No man's work has been more imitated than that of M. Gale. In every exhibition he is imitated in size, style, framing and signature; yet an expert can decisively say of two pictures, this is the Gale, and this the imitation; he can even distinguish between the imitators, and say, this is a ——, and this a ——.

Then, in a very different style, there are the works of our much-respected president, than whom there is no one I would prefer to see occupy the honorable position which defective health compelled me to decline. Perhaps I am not a fit and proper judge of his pictures, but without altering my opinion of what a photograph should be, I must confess that some of them have captured my admiration for their beauty and respect for other ways than my own when in good hands. Now, some have endeavored to imitate Mr. Davison, and some have renounced photography in despair, because they could only reach the eccentricity without touching the excellence. It is easy to put the image out of focus, but not so easy to make a picture by that means, and Mr. Davison makes pictures. It is easy to copy peculiarities, but not so easy to imitate valuable essentials.

While on the subject of our president, may I be permitted to add—for he is now in a public position and open to our shots—that, however straitened his views of the practice of photography as an art may have been at one time, his opinions have constitutionally broadened down, until now the keynote of his teaching is liberty for all.

We now come to another proof of individuality. It used to be the practice to insist on unanimity at exhibitions until after the judges had done their work; but this was given up when it became apparent that the judges usually recognized the work of the old hands, and the only nameless ones were new exhibitors. In America—at least at the Convention Exhibition—the farce of the anonymous is still carried to such an extent that nobody seems to know, officially or otherwise, who the pictures are by until it is too late to be of any use to the exhibitors; and newspaper criticism has to be published without names. For, however the photographs may proclaim their authors, it seems to be etiquette to pretend not to know.

The difference between the works of some of our best photographers and those of the moderately successful can scarcely be due to a scientific cause, except, indeed, to a reversal of the generally received idea; for I think, if the truth were known, it would be found that the producers of the indifferent pictures had much more scientific knowledge than those who produce the most artistic pictures. I am acquainted with a great many of our photographers, but I do not know one of those to whom we are accustomed to look for the chief ornaments of our exhibitions who have any elaborate scientific knowledge. Indeed, their technical methods are so very simple as to seem quite elementary. They usually apply to a plate the make of which they are accustomed, a simple pyro and ammonia developer, a handful of hypo and a jug of water, and use them properly; and that is all. They do not bring science to bear even on the exposure at the expense of "a few shillings." They get on without an actinometer. They feel from experience when their plate has had enough, and an actinometer, however perfect, would only confuse them. But, as they endeavor to put taste, thought and feeling into their pictures, their works necessarily differ from those of the scientist, and the essence of their art is individuality.

My last word must be a word of caution. Be original, be unique if you can, but not out of harmony. Individuality goes wrong when it is out of harmony with its surroundings. Eccentricity is very easy, but it does not last. It is open to the meanest capacity, and is often assumed by it; but genius, to be useful, should consist of individuality, backed up by suitability to its environments.

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Hot Weather Advice.—Keep the developer cool by setting the graduate in a basin or pail of ice water. The heat in the plate and tray will soon warm the developer. Filter after using on three plates. Keep the hypo fixing bath cool by placing a crystal of the hypo in one corner of the tray. Supply fresh crystals as fast as the others dissolve. When possible, choose a cool day for development operations.

How to Look at Photographs.*

BY FRANK M. SUTCLIFFE.

PHOTOGRAPHS are generally said to show either technical or artistic excellence. Sometimes both qualities are visible in the same piece of work; sometimes they are not. There is another quality which ought to be present in all photographs, without which no photograph can be considered perfect, and until this quality has been recognized the photographer should stop before he pats himself on the back and says: "What a good boy I am!" after he has taken what he may look upon as a perfect piece of work, as an example of technical skill or as an attempt at picture-making. It may be clever, yet for all that it is a failure if it cannot *speak* to those who look at it.

There has been, as you all know, a lot of strife between what has been called the old school and the new, or the sharp and the unsharpened; it seems to me that, if both these parties had looked at their work and at that of others in the right way, all this bickering would not have been. It would almost appear as if many consider their photographs as an end rather than a means to an end, and as if all that is expected of the spectator is that he should admire the skill of the worker as shown in his work; sometimes even it appears to be the *author* of the work who expects to be admired. Only the other day this was strongly impressed upon me. A youthful photographer was pointing out the beauties of what he considered a most successful picture, which he had just finished, to one of our oldest photographers, saying how he had been advised to place a figure at such a spot but did not, because and because——seeing the old photographer smile, he stopped in his oration, and, I hope, received a useful lesson when the old one said: "Pardon me for smiling, but I was thinking of a whipping I once got for falling into a horse-trough the very image of the one you have there." That old photographer knew how to look at photographs, for he was able to make them speak to him and recall to his mind bygone days. The person who looks at a photograph as a complete picture, unable to say anything about anything except the facts which existed at the moment of exposure, does not see very far. You may contend that, if this is true, it will depend more upon the spectator than upon the photograph, for what will give pleasure to one will say nothing to another. To be sure, if the spectator is blind to everything except the mechanical part of the work, the loss is his alone; but he need not, as he often does, call attention to his own ignorance by denouncing a picture a failure because his mind happens to be blank except so far as a knowledge of a certain kind of mechanics may go.

If a photographer thinks he can tell his tales better by making his works microscopically sharp, let him do so by all means; if any one's hobby is the study of mosses and fungi, no pinhole or spectacle-lens view will remind such an one of the happy days he has spent in poring over damp walls, in musty nooks and corners. To some an extremely sharp picture may be positively painful, for it will perhaps disturb and break the train of thought, whereas a less defined one would allow the mind to wander at its own sweet will. At the last exhibition of the Photographic Society the Hanging Committee, the secretary and the judges had the opportunity of studying a few works which the rest of the world were not allowed to see. I don't allude to those which were hung on the floor and afterwards consigned to the cellars, but to a small collection of pictures by the worthy president of this convention. Among them was an almost ideal photograph. I don't mean that it was so uncertain and undefined that it could have represented anything the spectator might have been pleased to wish, but it was just enough to start the mind along a pleasant channel. The foreground did nothing more than carry the eye to the principal object, and when it got it there the eye was politely asked to take a seat, and the mind then began to entertain the spectator, and picture after picture were put before him; one heard the wind blowing and whistling through the mill sails, then it almost died away, only to come again in louder and louder gusts. Now the miller and his man come out and look anxiously, first at the yellow sky and then at the wands, from which they take in nearly all sail. Yet the big arms rush round at a fearful rate as the sky gets darker and darker. What an enormous size the mill looks!—did you ever go underneath a mill's sails in the dark? What terrible things the arms are!—they are more like a nightmare than anything real as they come down threatening to crush you at every turn, yet never getting any nearer. Then, perhaps, you awake from your dreams, only to find yourself inside the mill on a bright Summer's morning, where the snowy whiteness is but little less dazzling than the sunshine outside. You notice how spotlessly clean the floors are polished by an unending stream of golden grain; your nostrils drink in, with infinite delight, the scent of newly ground wheat. Perhaps the miller weighs you in the big, old-fashioned floury scales, in which have been weighed, in good years and bad, the daily bread of the whole village. All this, and much more, did Mr. Davison's simple photograph say. Had it been taken by one of the cast-iron school, the same pleasant train of thought might have followed, if (mark the "if," if you please) one could only have kept at a distance of ten yards; but where is the man who is content to look at a photograph from this distance? No; it would have drawn us nearer and nearer, and every step would have disturbed the train of thought by forcing other subjects forward. Most likely the excellence of the lens would have been impressed upon us, and, once started on such a subject as cameras and lenses, good-by to all pleasure.

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* Read by title before the Photographic Convention of Great Britain, July 14, 1892.

You may think a windmill is a very suggestive subject—almost alive, as it were—and that it is only natural that it should have a story to tell. Very well, then, take photographic portraiture, or likeness-taking, as it used to be called, which are the successful portraits ? Those which are most beautifully posed, most brilliantly lighted and most elegantly retouched ? Not a bit of it ! The best portraits are those which remind us in the happiest way of the originals. Those sitters who go to be taken only to please themselves are invariably disappointed, and "serve 'em right ;" for who, in their senses, wishes to be reminded of themselves ? Or, take views for a change. Why do people buy local views ? Are they allured into spending their money because they are offered such exquisite examples of photographic art ? No ; all the tourist wants is something to remind him of the places he visits—something to strike a note in his memory. A few years ago I took a view, but somehow or other it did not sell at all, though it was as clear as the most fastidious could wish for. No ; the view which sold was taken by the other man, though he ought to have been ashamed of it, for the grass was black and his whites were white without any mistake. But his prints sold. Do you know why ? At one corner of his view was a whitewashed public-house. I learned afterwards that visitors called there to refresh. My view did not include that ugly public-house. What I gained in artistic excellence I missed in sentiment and *£ s. d.*

There is another class of work which should certainly be able to speak. I mean subject or genre pictures ; but these sometimes fail to appeal to anything but the spectator's sense of humor, so narrow is the line which divides the sublime from the ridiculous.

Turn to whatever branch of photography we will, it is hard to find one that does not provide ground for our airy palaces. You have all heard of the man who had been so badly brought up that

"The yellow primrose by the river's brim
A yellow primrose 'twas to him,
And nothing more."

Somewhere on the walls of this room you will find a photograph of some animals—sheep and lambs. Now, this little photograph will most likely say to you what the yellow primrose ought to have said to the unfortunate man. It will remind you of the days when you were young and innocent as the lambs ; it will remind you of successive springtimes, of the birth of many happy years. Young lambs always remind me of a photographer I knew when a boy. He was always singing :

"If I'd as much money as I could tell,
I wouldn't go crying, 'Young lambs to sell !'"

He had, like many of us, mistaken his vocation, and was consequently miserable.

If possible, whenever you look at a photograph, try to forget the photography. An architectural photograph will preach no end of sermons in stone to one who is well versed in the history of architecture, but to one who knows nothing of this art it will only tell of small stops, wide angles, and the like; it will supply him with less mental food than the view of the lambs would to a man who had never known the country—to whom sheep and lambs only meant mutton chops and lamb and mint sauce.

No doubt you are thinking: Who do you expect has time nowadays for all this dreaming? and will be saying that you want your picture ready made without being at the trouble of making them for yourselves. If these are your thoughts, I am afraid you find the world a very hard place, for, if you take away the "make-believe" with which life is colored, you must make existence almost unendurable.

Those among you who are unable to agree with what I have said will, I think, at least admit that it is better to take your photograph first, and then build your ideal on it, than to raise your ideal and then expect to be able to take a photograph to come up to it. I will, if you will allow me, give you an example. A customer of mine wanted his shop-front taken. By the way, shop-fronts are about the only things the amateur has left for us poor professionals to take. Well, I took the shop-front, but it failed to please. Why? Because my customer expected the photograph to rise as high as his imagination did. When I asked him to point out the faults, he said that, in the first place, the young lady looking out of the window was too short and fat, not tall and graceful, as she should have been; secondly, a wax figure he expected next week for the window did not show in the photograph; but his principal objection was that a gilded sky-sign, which he intended having put up next Winter, was not in my picture.

May I say that a photograph gives us the naked truth, which has to be clothed by the imagination.

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Editorial Comment.

Our Illustration.—We have selected a view of "Cortina, Switzerland," by Mr. Alfred Stieglitz, as our frontispiece, which, we feel sure, will be appreciated by our readers. It was awarded a medal at the American Institute Fair last year. Mr. Stieglitz says: "Cortina is one of the most picturesque spots in Europe, being situated in a luxurious valley in the heart of the world-famed Dolomites."

The American League of Amateur Photographers.—The recent reorganization of the American Photographic Conference under the above name, we are informed by the new president, Mr. Paul L. V. Thiery, is intended to extend its usefulness as a national organization on the lines of the well-known bicycle league.

In a general way it will promote the science and art of photography and sciences allied thereto, but intends not to have anything to do with commercial photography or to interfere with professional photographers, except in the matter of securing special discounts to its members on all photographic supplies.

We believe the bicycle league does not hold out such an inducement, having no provision at all for the cheaper purchase of goods. Possibly, too, it may be a harder thing for the Photographic League to bring about than its leaders imagine. The dealers in various parts of the country must live on the profits made from the amateurs and others, and unless goods are bought in quantities we doubt whether a discount will be granted.

A special central disbursing store or purchasing agency we think might be established from which only reliable, tested goods and instruments could be purchased. If some such centre were started, and an effort made to test different plates, lenses, etc., issuing frequent reports thereon, the league would greatly increase in value. Formerly it was understood that no person could be a member unless he belonged to some society or club ; now we are given to understand that any person of either sex of good moral character, regardless of club or society membership, may join on the payment of dues of one dollar, half of which goes towards the support of State divisions and half towards the National League. In each State the clubs are to join together in a special confederation by themselves, to be called State divisions ; amateurs not members of any club, we understand, may belong to them and enjoy the benefits of these clubs the same as if they were members, except voting in the club itself, at much reduced rates. Perhaps the idea is such admittance may be the means of getting the party to join the local club. The wording of the by-laws is not clear on this point, but it may be the intention for each State division to say who shall and who shall not be members. If so, they may have the right to shut out persons who do not belong to any local club. These are points that we suppose are not fully settled, though the president seems to think the State-division feature is one of the strongest in the scheme. We infer from the information he has sent that only members of local clubs are to have any power in State divisions, which conflicts with the invitation for any amateur to join.

The reason we lay so much stress on the organization of the State divisions is that there are thousands of amateurs who do not belong to any club, and who do not have the time, means or inclination to do so, but they might belong to a division at a moderate fee. They have their own conveniences at home for doing work, and in many cases prefer to spend the money they would throw into a club in the purchase of plates, instruments, etc. If this class are invited to join a State division, and are given no voice in the management of such division, there will be no special inducement offered, except what is furnished by the representatives of the clubs, who hold supreme control. We think a more cosmopolitan organization of State divisions should be undertaken : organize State divisions independent of any club or society; have their own headquarters, dark rooms, etc., and let every member have a right to vote for the officers of the division. The delegates from such an organization will have some power and influence in a national body, and will take more interest in the cause.

President Thiery seems to think many advantages will be gained by a strong organization based on the proposed plan. We agree with him if the State-division idea is made more clear. The co-operation of every amateur photographer and of all photographic periodicals is invited. We wish the undertaking success, and shall hope to see it work effectively on broad and national grounds. Elsewhere we state more in detail the objects of the league.

The British Annual Convention.—In our "Society News" we give an account of this convention, in which Americans participated and were most graciously honored. We also have the pleasure, through the courtesy of the officers of the convention and members of the English press, of placing before our readers the several interesting papers contributed to and read before the convention, and thereby supply a truly "convention number." The reports show the convention to have been very harmonious and practical in its deliberations, and consequently most promotive of the fraternal relations which every photographer should seek to encourage. The president of the convention, Mr. George Davison, made a masterly address, in which he explained his ideas of what constituted a pleasing photographic picture. He is willing to sacrifice sharpness for that which gives an impression of life or motion, and accommodates the different degrees of photographic manipulation specially to the subject in hand. He evidently made a good point in that respect, which will perhaps be patterned after by progressive, artistically disposed photographers. He also alluded to the advances made in the science of photography and of their value in picture-making. We hope in an early number to reproduce the group that was taken of the convention.

The World's Fair Photographic Privilege.—Constant agitation on this subject appears to draw out different phases in which it is looked at, and to emphasize very decidedly the universal opinion that it is a wrong, an injustice and un-American to establish regulations barring out the amateur from photographing at the World's Fair. We have received conflicting reports from amateurs who have attempted to take photographs of the present condition of the buildings and grounds, which show that the prohibitive disposition is already in vogue. We shall publish in our next number an account by an amateur of a successful tour of the grounds, and learn that by correspondence in advance he obtained, without difficulty and without paying for them, two permits to photograph wherever he pleased, and carried a 5 x 7 tripod camera. He was, however, treated with suspicion wherever he went through the grounds, and at last was told that all permits were revoked the night before and the privilege awarded to Mr. C. D. Arnold, the official photographer.

As will be noticed in our "Correspondence," another amateur met with a reverse experience. He carried with him a small hand-camera for 3¼ x 4¼ plates, and was refused admittance to the grounds unless he left the camera, checked, in the care of the gatekeeper, and was informed that no cameras could be taken in. It was useless to go to the superintendent; that was the law and he could not help himself. He was informed that twenty-five to thirty cameras were thus stopped every day.

In the *Chicago Eye* we saw a statement to the effect that it was rumored that the World's Fair authorities would take the matter of photography into their own hands, appoint an official photographer, and grant permits to all desiring to use a hand-camera. We subsequently learned from the secretary of the Ways and Means Committee at Chicago that no action had been taken by the committee on the award of the photographic privilege, which, officially at least, disproved the rumor. In our "Correspondence" is a letter from the Hon. John Boyd Thatcher, of Albany, New York, and a commissioner from the State of New York to the World's Fair, in which it will be observed that the National Commission has some say as to the character of the regulations which may be established by the Executive Committee. It therefore is important that the members of the commission be posted as to the stand the Executive Committee has taken against the amateur, and we advise photographers, either as clubs or individuals, to send a protest to each commissioner from their respective States against the exclusion of the camera, and urge that the action of the Executive Committee be non-concurred in, but that the photographic privilege be extended. Mr. Thatcher thus forcibly expresses himself: "I would not have suggested a five-dollar fee for the privilege; I would have planted myself on the broad ground that they had no right to make a regulation preventing the use of cameras. I feel quite confident that a strong fight will result in a triumph for the amateur photographer."

We earnestly believe, too, that the cause of amateur photography will ultimately come out ahead; there are too many in it to permit its practice being choked off as is proposed, and the public sentiment in its favor is overwhelming.

We are glad to note the aid the English photographers are giving the movement by the passage of a resolution at the Photographic Convention of the United Kingdom, in July, protesting against the proposed restriction of the photographic privilege, and authorizing its officers to sign the petition in behalf of the 250 members there assembled, for the extension of the privilege.

The following British Societies have signed the petition which has been so universally approved here :

Devon and Cornwall Camera Club, Cardiff Photographic Society, Great Yarmouth Camera Club, the North Kent Amateur Photographers' Society, Oldham Photographic Society, Munster Camera Club, Cork, Ireland; Hull Amateur Photographic Society, Newcastle-on-the-Tyne, and Northern Counties Photographic Association; Southampton Photographic Society, Birkenhead Photographic Society, the Lantern Society of London, Liverpool Camera Club, Photographic Club of London, Sheffield Photographic Society of England, Manchester Photographic Society, Louth and District Society.

We are advised that a large party of English photographers are organizing to attend the Chicago Exposition next year. How un-American it will look to them should they be prevented from photographing on the grounds! We hope for the honor of our country such restrictions shall not be in vogue. The art value of the work which these photographers will send will be enough in itself to entitle them to special privileges. We refer to the article on "Chicago and Back," from the *Practical Photographer,* on another page, as an indication of the feeling in England on the World's Fair, and are heartily in favor of the suggestion there made that special arrangements be made on each side for their entertainment and the furtherance of a grand convention at Chicago.

We shall cordially welcome our English brethren, and assure them in advance that they will receive the consideration and attention of every American photographer.

The Eastman Litigation.—Lest there should have been any misapprehension as to inferences to be drawn from our report of this litigation, as published in our last number, we desire to state here that there was no intention on our part to take sides with either party, but we simply sought to emphasize the rights of individuals to form associations for the transaction of similar kinds of businesses. While our intention was thus entirely impartial, the wording of the notice may seem open to criticism as reflecting on the Eastman Company. In so far as it does so we frankly withdraw the same and announce our position in this controversy to be that judgment on its merits be suspended until the tribunal before which the litigation is pending has, by its decision, finally set the matter at rest.

Incidentally we wish to add that the publishers of the magazine are not responsible for the objectionable article, although it appeared in "Publishers' Department."

F. C. BEACH,
Editor.

Correspondence.

THE WORLD'S FAIR PHOTOGRAPHIC PRIVILEGE.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER.

SIRS: I enclose my petition for the extension of the photographic privilege at the World's Fair. This matter is in the nature of a rule and regulation to be adopted by the World's Columbian Exposition (otherwise known as the Local, or Chicago Directory) and the World's Columbian Commission, of which I am a member from the State of New York. The act of Congress provides that the World's Columbian Exposition may make rules and regulations governing the Fair, subject to the approval of the National Commission. The National Commission has appointed a committee of two, clothing it with full power to conduct its business when the commission itself is not in session. The two members of this committee are Gen. J. W. St. Clair, from Fayetteville, W. Va., and Geo. V. Massey, from Dover, Delaware.

I would suggest, in addition to the petitions which you are forwarding to the Ways and Means Committee, that you also communicate with, or send petitions to, General St. Clair and Mr. Massey.

I have already written to the president of the Exposition, Mr. Wm. T. Baker, and I will communicate with General St. Clair and Mr. Massey, both of whom are my personal friends.

I would not have suggested a five-dollar fee for the privilege; I would have planted myself on the broad ground that they had no right to make a regulation preventing the use of cameras. I feel quite confident that a strong fight will result in a triumph for the amateur photographers. Yours,

JOHN BOYD THATCHER.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

I am glad to see you are making a fight for the personal rights of our amateur photographic American citizens. I am just back from Chicago, where I went only for the purpose of making a tour of the World's Fair grounds with my camera, and was very disappointed and indignant indeed at having it taken away from me at the gates, the object of my journey being annihilated at one fell swoop. I was obliged to go down on a boat one afternoon and take a few silhouettes of the buildings at long range. The man at one of the entrances told me that some days he would have twenty-five or thirty cameras "in the pound." Several arrests have been made by the Fair police, but a Chicago lawyer thought they could not be held legal. Is there anything I can do to help on the cause? Yours truly,

I. M. BOWLES.

33 S. Meridian street, Indianapolis, Ind.
July 25, 1892.

A NEW CLUB AT SAN DIEGO.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

On July 3d, the amateur photographers of San Diego formed a club and manifested such enthusiasm over the organization that it bodes well for its future. A membership of fifty or more may reasonably be expected. It is proposed to establish a well-appointed club room, with a dark room for the use of members. Southern California offers amateurs an excellent field in which to work all the year round. Cloudy or inclement days are the exception here. The country is full of desirable subjects for photographing. The clearness of the atmosphere, as is well known, makes possible the production of negatives such as are unobtainable in the East in the matter of clearness and sharpness. Hand cameras are largely used in this place. Some of the amateurs secure very excellent results with this apparatus. Happily, many of them desire to turn out negatives of superior quality rather than strive for quantity, regardless of perfection. The organization of a club here will doubtless please amateur tourist photographers. Thousands come here from all parts of the country, bringing their cameras with them. Most of them are thirsting for association with lcoal amateur artists who know the country and can furnish accommodations for developing. The San Diego amateurs are very hospitable and will welcome their brethren and "sistren" from other States most cordially.

San Diego, Cal., July, 1892. M. Y. BEACH.

THE EIKONOGEN DEVELOPER.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

SIR:—I herewith send you 24 grains of eikonogen, which I desire you to test on some small plate, instantaneous isochromatic or orthochromatic preferred, and report your experiment or results with this sample of eikonogen in THE AMERICAN AMATEUR PHOTOGRAPHER as soon as convenient, and oblige an old subscriber.

St. Louis, Mo., July 1, 1892. J. SILER.

[The powdered eikonogen was not as white as some we have taken out of a fresh package, but otherwise we noticed nothing remarkable about it. We dissolved the 24 grains in 2½ ounces of ordinary water, 68° F., and then added 20 grains of chemically pure sodium sulphite. We took a Cramer Crown 5x7 plate, which had had an exposure of $\frac{1}{25}$ of a second (practically instantaneous), and poured on the solution. In one minute the image began to appear, and in twelve minutes the negative was complete. No alkali was added. The color of the image was chocolate. With the same developer, having half a minim of a 1 to 20-grain solution of carbonate of potash added, two other shortly timed negatives were developed and were of a black color; each was kept in the developer about ten minutes. The first negative was washed in changing water for nearly two hours after fixing, and was taken out, having the surface covered over with minute blisters. But we do not think they were due to the developer; probably to prolonged washing or poor adhesiveness of the gelatine film to the substratum. They did not go down when the film dried, and consequently damaged the picture. The developer kept clear and acted, apparently, no different from the usual eikonogen developer. We did not have an opportunity of testing it on isochromatic plates, but our experience with usual eiko-developers on them is that it is well to dilute the developer nearly one-half, or too great density will result. Another excellent way is to develop till the image is well out, then, without washing, transfer the plate to another tray holding a solution of water in which is dissolved a few grains of carbonate of potash. Enough eiko will remain in the film to give density, while the alkali brings out the detail and a soft negative is the result. Interiors are very successfully developed on this plan.—EDS.]

The Optical Magic Lantern and Journal of the Enlarger has moved from Salisbury Square, E.C., to 55 and 56 Chancery Lane, W.C., London, England. It is a useful and instructive journal for those interested in lantern work.

The World's Fair Photographic Privilege.

COMMENTS OF THE PRESS.

THE AMATEUR PHOTOGRAPHER AT THE FAIR.—The amateur photographers are very much exercised over a question of rights at the World's Fair, and they have brought into action the machinery of their various organizations to endeavor to secure licenses for all those amateurs who would use a camera at the exhibition. The Ways and Means Committee of the fair management is now considering the matter; but should that body refuse the request of the photographers, the latter will carry their petition still further. They are determined that they shall be allowed to take pictures of the exhibits and buildings at Chicago, and it seems hardly reasonable that they should be refused.

The "fiend with the camera" has become so ubiquitous and persistent that he deservedly has been condemned, and this feeling undoubtedly has had no little to do with bringing about the opposition to the request the photographers have made. And the latter are entirely responsible for the obliquity which has been charged against them. Had they been less impudent in their efforts to secure views of those who at least had the moral right to be free from their persecution they would have been permitted to go by in peace; but now the time for revenge has come, and the "camerists" find their darling desire in danger of being thwarted.

All things considered, however, it is to be hoped that their request will be granted. Photography in its present state is one of the achievements of the age. It plays an important part in our historical records. It is destined to play even a more important part. And as everything connected with the World's Fair at Chicago should receive full notice, so every agent should be called in to preserve for future reference the characteristic features and the more notable exhibits there. It is true, of course, that the professional photographers will fulfill this object, and that we will be able to secure views of almost everything of importance upon that occasion; but the amateur photographer will go further. Those very traits which have brought invectives upon his head in the past will cause him to give us the World's Fair in original light. His views will show us the underlying character of the great exhibition. He will preserve objects and incidents that would escape the notice or would be ignored totally by his professional brother. And it is these less conspicuous objects and incidents, carrying with them a certain interest, which go no little ways toward giving character to the whole exhibition. Then, again, the amateur photographer asks for no privileges which require especial provisions on the part of the fair management. He does not require space for his tripod or the like. He proposes to use a hand-camera only, one that can be snapped at objects quickly and without previous preparation. He offers to use no plate bigger than four by five inches, thus not infringing upon the privileges of the professionals who take larger views. In a word, he asks for very little except the right to take views at the fair—a request which the management certainly should grant, unless some more material objection be developed.

Great men may object to having their faces reflected upon the plate of the amateur photographer's camera; but the great men are in a ridiculous minority. Other people are less jealous of their countenances, and if the licenses granted the photographers contain strict conditions in regard to the conduct of the possessors while securing views, there should be no difficulty arising from their photographing, or complaint from visitors to the exhibition.—*Evening Bulletin, Philadelphia, Pa., July* 6, 1892.

CHICAGO AND BACK.—The question of the World's Fair at Chicago next year was naturally brought before the attention of the members of the convention by the presence of American members and by the introduction of a resolution dealing with the restrictions that were proposed to be placed on the right of photographing at the great show. In conversation with various members, we found that several intend to visit the World's Fair at some time next year, and all thought that if a photographic party could be arranged, so that all could be in the States as much as possible at the same time, it would be very enjoyable. Of the people to whom we spoke, the following definitely undertook to do all they could to arrange their visits simultaneously with any general party that might be arranged, and to help the scheme in every way in their power, viz.: Mr. Alexander Ayton, Jr., Edinburgh; Mr. W. M. Warneuke, Glasgow; Mr. and Mrs. Werner, Dublin; Mr. R. P. Drage, London, and Mr. R. G. Rettie, Kirkcaldy. Several others greatly favored the general idea, but were unable to speak definitely of their ability to be present, and doubtless there were many to whom we could not broach the subject, owing to its arising at the last moment, who would none the less join heartily in the project.

As regards the reception that would be accorded to an extensive party of photographers by their *confrères* across the water, we think there can be no doubt. Miss Catharine Weed Barnes assures us (unofficially, of course) that the two principal New York societies and the Chicago Camera Club will extend the heartiest of a welcome. Dr. Charles L. Mitchell speaks with a like confidence on behalf of the influential Society of Philadelphia. Mr. John Carbutt, whom we have since seen, assures us that the photographic manufacturers and merchants of the States will in every way aim at being of service to us; and we can personally speak for our brethren of the American photographic press—every one of them.

It is too early to suggest even an outline scheme of what ought to be and can be done, but we think it should be possible to arrange for a general membership in the American Photographic Convention, and so to make the grandest photographic gathering that has ever been held, or that will be possible for many years to come. We want everyone, therefore, who can, or even who *may* visit the Exposition, to send us their names at once, with particulars of the dates, if any, between which their journey must fall, and with any suggestion they can make for the success of the scheme. We would then propose to arrange for a small executive committee to be formed in England, for a similar committee in the States, and for a definite programme to be drawn up as far as possible. As it will be impossible, whatever arrangements we make, to fix a time that will be convenient for everyone, we shall see that all possible privileges are extended to individual photographers as well as to the party. And we will undertake that the arrangements shall be duly printed and all notified.

It may seem that we are commencing the matter very early, but it is a big undertaking, and wants many hands and much work to engineer it into a big success. Moreover, we know that we have readers in South Africa, in New Zealand, in South America, and even in India, who mean to visit the Fair, and for them to participate the time is none too long. We ought to be able to arrange a grand foregathering of camera men, without distinction of race, sex, caste or color, and to make it a meeting that will be not only sociable, but a real practical help to the advancement of the art to which our lives are pledged. And as it is a big scheme we call for an absolute sinking of differences, and for assistance from everyone, whether artist or scientist, manufacturer or journalist, professional or amateur, who has an interest in the matter.

Send your preliminary suggestions at once to the Editor, *The Practical Photographer*, Memorial Hall, E. C.—*The Practical Photographer for August.*

Society News.

[Under this head we propose to publish all society matters of scientific or technical value which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]

PHOTOGRAPHIC CONVENTION OF THE UNITED KINGDOM.—The convention was held at Edinburgh, Scotland, from July 11th to July 16th, and was attended by a large number of photographers. From Miss C. W. Barnes, who attended, we have received the following reports: The convention was inaugurated on Monday evening of July 11th by a reception in the Royal Scottish Geographical Society's Hall, National Portrait Gallery. Among the Americans present were Miss Catharine W. Barnes and Dr. Charles L. Mitchell; among the English photographers were seen Prof. Bothamley, Messrs. Traill Taylor, F. York, Mr. Hastings, Snowden Ward, of the *Practical Photographer*, and H. Sturmey, of *Photography*.

The large gallery was hung with a fine collection of enlarged portraits of military men, on bromide paper, by Morgan & Kidd. The Eastman Company also had examples of prints and enlargements, of merit. Other exhibits were shown by Mr. Alexander Ayton and Mr. Patrick, of Edinburgh.

The Lord Provost Russell presided at the reception. As chairman he opened the meeting in a few appropriate words, alluded to the advances made in photography, and welcomed all to Edinburgh. Professor Bothamley thanked the chairman for the welcome, and then called upon the president of the convention, Mr. George Davison, to deliver an address.

At the outset the president made reference to the feelings of interest and sociability which characterized their annual summer conventions. Notwithstanding the jealousies and quarrels of specialists, there was certainly a sympathy felt whenever a fellow-worker in photography was met. He welcomed that public opportunity of renewing the art claims of photography, and of inciting all photographers with artistic tendencies to apply to their purpose every new appliance which science could devise. The interest in the movement had been freshly roused by keen discussions, as to the distinctive qualities of photography, as to the naturalness of certain methods of focusing, as to tone relations, and as to the qualities yielded by several printing processes in respect of gradation, surface, quality and color. No one method in photography had the monopoly of all the qualities. The artistic in miniature might have as much perception as the impressionist of broader treatment, although it might be a different perception. The subtle combination and direction of line and arrangement of light and dark spaces, or the charm of naturalness and effect of the spirit, and characteristic of natural scenes or incidents, were the distinguishing characteristics. The man who married the two methods in his expression by painting, without seeming effort, was the genius they all conspired to worship. The lecturer afterwards made reference to the need for a State Photographic Record Office, and also for a Photographic Institute, where photo-mechanical processes and different methods of scientific inquiry and experiment could be taught, and suggested that the Society of Arts might help to initiate a movement to supply the want of such a national school. Photographic art exhibitions might also raise the standing of photographs as pictures. After treating of various photographic improvements, the lecturer stated that there was more interest to be found in pictorial photography in their own than in any other country. He urged his hearers to stand by the dignity of what they professed and practiced.

A vote of thanks was accorded him.

After the address a lantern exhibition of groups and views taken at a former convention, and lantern-slides by Miss C. W. Barnes, were displayed under the management of Mr. Thomas Haddow, optician, who has manipulated the limelight at the *Scottish Leader* office during the elections.

On Tuesday, July 12th, though the morning was very dull and cloudy, ninety members of the convention joined the excursion to Melrose and Dryburgh Abbeys. At Melrose a couple of hours were very busily occupied in the abbey and grounds. After lunch the party divided, nine members taking a carriage to Abbotsford, and the remainder following the prescribed route, driving to Dryburgh, where the beauty of the ruins tempted to the using of far more plates than the time at disposal would allow. One or two of the more independent-spirited wandered from the Abbey inclosure and photographed a curious carved tombstone to James I. and James II., which stands in a neighboring field, or took glimpses of the beautiful and changing panorama along the banks of the Tweed.

On Wednesday, July 13th, the annual general meeting was held. The secretary stated that invitations to the convention for 1893 had been received from the Devon and Cornwall Camera Club, the Shrewsbury Camera Club and the Photographic Society of Ireland. It was decided to accept the first invitation, and to hold next year's convention at Plymouth. Votes of thanks were accorded by acclamation to the Lord Provost for his cordial reception, to the Trustees of the Board of Manufactures for the free use of the rooms and to the local and general secretaries for their work. At noon the party adjourned to the cliffs beneath Edinburgh Castle, where the convention group was taken.

[Sessions for reading papers, found on other pages, were held between 3 to 6 P. M., and 8 to 10 P. M.]

On Thursday morning, July 14th, at 9:30, about sixty members of the convention started for St. Andrews. The weather, which seemed likely to prove rainy, cleared up in time for a number of views to be taken of the Cathedral, Castle and other picturesque places. Several workers carried their cameras down the cliffs to obtain glimpses of the lovely bay, and others balanced their tripods with difficulty on a narrow ledge of soil at the top. The light was fine, and the camerists improved it. In fact, the whole town was practically in the power of the camera army, which consisted mainly of regulars, otherwise tripod workers, but had also considerable flying artillery in the shape of snap-shotters, who trained their pieces not alone on the inhabitants of St. Andrews, but on their own friends, many of whom suffered at their hands. Some of the party remained until evening, but the majority returned about six o'clock. There must have been about four hundred views taken in all.

A smaller party of seventeen members took the excursion to Dunfermline, North Queensferry and Inverkeithing, where there was ample work around Dunfermline Abbey, the old houses in Main street at Inverkeithing and views of the Forth Bridge from North Queensferry.

At the evening session of Thursday the secretary read several notices, after which Dr. C. L. Mitchell, of Philadelphia, delivered his paper on "The Use of a Color Screen in Landscape Photography." (See page 338.)

The paper was attentively listened to and vigorously applauded at the close. In the discussion which followed, in which Miss Catharine Weed Barnes, Messrs. C. H. Bothamley, J. Traill Taylor, S. G. Buchanan Wollaston, Leon Warnerke, H. Snowden Ward and others took part, many interesting experiences in the use of color screens and orthochromatic plates were recounted. The president, Mr. George Davison, summed up the discussion, and said that it was surprising, in the face of so much testimony to the value of orthochromatic plates, that they were not more largely used.

The paper on "How to Look at Photographs," by Mr. Frank M. Sutcliffe, was taken as read. (See page 360.)

A motion which arose out of the paper read on the previous day by Miss Catharine Weed Barnes was then introduced, proposed by Mr. H. Snowden Ward and seconded by M. Henry Sturmey, in the following terms:

That the Photographic Convention of the United Kingdom, met in Edinburgh, and consisting of 250 photographers of the United Kingdom, hears with regret the reported intention of the management of the International Exposition in Chicago to restrict the right of photographing in the Exposition to one or two firms or individuals, and prays the managing committee so to modify the arrangements that reasonable facilities may be given to British and other photographers visiting the Exposition.

And that the president and secretary of the convention be instructed to communicate this resolution to the management of the Chicago Exposition.

The proposition was spoken to and supported by the president and several members, and was passed unanimously and with acclamation.

On Friday, July 15th, the excursion parties were largely scattered. Many hand-camera men went down to Newhaven and caught snap-shots amongst the fishwives. Several took the Dunfermline excursion, which was on the official programme for Thursday. Others prowled round the Cowgate, the Grassmarket and the other quaint portions of the "old town." The main excursion was to Cramond Bridge, where, in default of hotel accommodation, the luncheon was served picnic fashion. The excursion to Roslin and Hawthornden was only attended by a few members, but at Roslin Castle and in the picturesque ravine there were ample opportunities for fine work.

The convention dinner, on Friday evening, was attended by ninety-five members. It was the first convention dinner to which ladies were invited, and was in every respect an immense success. The president took the head of the table, with Miss Catharine Weed Barnes and Dr. Chas. L. Mitchell, as guests of honor, on his right. After the usual loyal and "convention" toasts the meeting resolved itself into a smoking concert, a special feature of which was the excellent singing of several beautiful and plaintive Scotch melodies without accompaniment. Recitations and short speeches filled up the rest of the evening, and the festivities closed with singing "Auld Lang Syne."

REORGANIZATION OF THE AMERICAN PHOTOGRAPHIC CONFERENCE.—The conference appeared to lack the necessary vitality of a national organization when the time came around for its second annual meeting last Spring; nothing was heard of it, and it was supposed to have been given up. What amounts to a reorganization on somewhat different lines has been undertaken by the same men having the leading positions in the conference, and a preliminary meeting was held on July 12th at the rooms of the Society of Amateur Photographers. Subsequently, on the afternoon of July 21st, thirty-six delegates, representing twenty-one clubs, held a meeting at the rooms of the New York society, 113 West Thirty-eighth street, and adopted a new constitution and by-laws, deciding to call themselves "*The American League of Amateur Photographers.*" The league is patterned in many respects after the League of American Wheelmen. It is established to bring about a closer union between camera societies, to promote the science and art of photography, to encourage and advance photography separate from its trade, commercial or professional relations, and to bring members into closer relationship in acquiring useful information. A division will be organized in each State, and a National Council will be held in May, 1893, to consist of three delegates and three alternates from each club. State divisions will appoint local officers in each town or centre, who will secure privileges and advantages, and furnish information to a member on presentation of his membership card. Arrangements will be made with hotels to furnish dark rooms and other conveniences for photographers. The league will publish a journal. It is proposed to secure to members a special discount in purchasing photographic materials. The membership dues will be *one dollar* yearly, and can be forwarded to the general secretary, T. J. Burton, 113 West Thirty-eighth street, New York.

Addresses were made by Paul L. V. Thiery, of Newark; Oscar S. Teale, of Plainfield, and A. J. Thomas, of Hoboken. The meeting was well attended and enthusiastic.

Officers of the National Council were elected as follows: President, Paul L. V. Thiery, Newark (N. J.) Camera Club; first vice-president, Dr. George L. Parmele, Camera Club of Hartford, Conn.; second vice-president, Frances B. Johnson, Washington (D. C.) Camera Club; treasurer, W. H. Drew, Lynn (Mass.) Camera Club; secretary T. J. Burton, Society of Amateur Photographers of New York.

The New York division of the league, as organized, elected the following officers: President, Frank La Manna, Brooklyn Academy of Photography; first vice-president, Dr. Ely Van De Walker, Syracuse Camera Club; second vice-president, James H. Stebbins, Jr., New York Society of Amateur Photographers; secretary-treasurer, H. S. Fowler, Brooklyn Academy of Photography.

It will be seen that the officers of the New York State division consist mainly of representatives of the New York Amateur Society and the Brooklyn Academy of Photography; also that New York, New Jersey and Eastern clubs only represent the league in the National Council. The West appears to have no representation, which is not quite right in an organization that is supposed to be national.

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Books and Exchanges.

PHOTOGRAPHY ANNUAL FOR 1892. Edited by Henry Sturmey. Price, 80 cents; cloth, $1.25. (London: Iliffe & Son.)

This second issue of "Photography Annual" is on exactly the same lines as the one that was so successful last year. It is an immensely bulky volume, containing nearly 1,200 pages of matter and advertisements. The original matter occupies some 230 pages and consists of "Tips for Tyros," the "Annals of Photography," and selected articles. The rest of the matter consists of reference tables, a very exhaustive section on new photographic apparatus, a set of fac-similes of English photographic trade-marks and directories of societies, English photo material dealers, etc. Of the latter information much is useless to American readers, though valuable to those in England. The two dozen process illustrations, many of them of excellent artistic quality, form a distinct and valuable feature of the Annual.

CATALOGUE OF PHOTOGRAPHIC LENSES.—From Ross & Co., 112 New Bond street, London, we have received their latest catalogue, giving prices of their new apparatus and lenses.

ANTHONY INTERNATIONAL ANNUAL.—We are informed by Messrs. Anthony & Co. that the date of publication of their interesting annual has been changed from June to December. Volume V. for 1892-1893 will appear on December 1st next.

Publishers' Department.

A CHANGE IN THE EASTMAN COMPANY.—Never in the history of photographic development has there been such a successful business enterprise as the Eastman Company. They began a little over ten years ago in a modest way and by successive introduction of improved methods and ideas have constantly enlarged their work. The latest change is the consolidation of the Film Company with the old Eastman Company under a big capital. The Rochester *Union and Advertiser* of May 24th thus describes the change:

A certificate of incorporation of the Eastman Kodak Company of this city was filed with the Secretary of State yesterday. The new corporation is a consolidation of the old Eastman Company and the New Process Film Company. The principal offices of the new company will be in this city and in Greece, the present location of the Eastman Company's works.

The directors of the Eastman Kodak Company are: George Eastman, Henry A. Strong, John H. Kent, Edwin O. Sage, Brackett H. Clark, George Ellwanger and Henry C. Brewster. The officers of the old company will serve as officers of the new corporation until the next annual election. They are: President, Henry A. Strong; vice-president, John H. Kent; secretary, Brackett H. Clark; treasurer, George Eastman.

The capital stock of the company is placed at $5,000,000, divided into 50,000 shares of $100 each. The shares are distributed as follows: 40,000 shares to stockholders of record in the old Eastman Company, in proportion to their original shares, and the balance of 10,000 shares among the stockholders of the Film Company as follows: George Eastman, 9,960 shares; F. P. Allen, A. O. Fenn, Charles H. Palmer, F. F. Church, 10 shares each.

THE NEW YORK ARISTOTYPE COMPANY inform us that they have moved to new and larger premises from Pearl street, New York, to Bloomfield, New Jersey.

PHOTOGRAPHICAL COURTESIES.

Reports reach us of unusual attention being given to our co-editor, Miss Barnes, during her stay in England. She has been the recipient of many invitations, and has visited several establishments, including Ross and Dallmeyer's factories. She went on an outing with Mr. H. P. Robinson, the landscape photographer; has been honored by a presentation of a complete file of the publications of the Photographic Club in London, photographed through Westminster Abbey by permission obtained by Captain Charles E. Gladstone, of the London Lantern Society, and at Edinburgh received attention from Mr. Henry Sturmey, Mr. Walter Welford, Mr. R. Keene, of Derby (who showed her about that interesting locality), Mr. J. H. Gibson and Mr. Bothamley. Mr. Watmough Webster is to show her through the old city of Chester. She has photographed in the localities of Melrose, Dryburgh, Roslyn, St. Andrews and other places near Edinburgh, under special permits obtained for her by her numerous friends. She has been entertained in Edinburgh by Mr. Blanc, president of the Edinburgh Society, who has also been kind in securing special advantages for her in a photographic way, obtaining permission for her to photograph in Holyrood Palace. She was photographed by aid of a flash light by Mr. Slingsby, who also showed her around at Lincoln. She has been the target of many English hand cameras. She went to see with a "press" party the photo-glyptic works of Sir Walter Scott, and early in August visited the west coast of Scotland at Rothesay, spending a day or two on board Mr. Adamson's steam-yacht, photographing the yachts in that vicinity. She is to attend a special meeting of the Birmingham Club, called in her honor, and will lecture before the London and Provincial Society and the Photographic Club in September.

"*Index Rerum Photographic,*" *by Dr. John H. Janeway, U. S. A., continued from page 334, vol. iv.*

chloride (2 grains), tartaric acid (2 grains) in 2 drams of distilled water, and add gradually to the silver solution, with constant stirring. Coat the paper as usual.

EMULSION PROCESS, HISTORY OF—The history of photography becomes more and more important as the art progresses. It is a most modern process, yet, nevertheless, its history appears with some rather obscure when seeking the primitive source. Although England claims the gelatine process such as used to-day, it is to Gaudin of Paris, it seems, we owe the first experiments, in 1853, with a *collodion emulsion*, and he claims in his published notes that he had made similar experiments with albumen and gelatine. In 1861 he published a *collodion emulsion process for glass plates and papers.* About four years after, Sayce and Bolton perfected Wharton Simpson's experiments in the same line. In 1866 Palmer, an amateur photographer, published his experiments with gelatine emulsions; but, like Gaudin in France, but little attention was given him.

ENAMELING PRINTS GLACÉ—It is essential, in order to obtain the best results of this process, that the glass used should be of a finely polished plate glass, free from the slightest scratch or defect on its surface; for should such exist, they will be reproduced upon the print. The glass should be carefully cleaned. After washing the surface rub dry with a cloth, and then rub well with another cloth made wet with alcohol, then wiping it finally with wash leather. It is then prepared so as to facilitate the removal of the collodion film which is to be formed on it. This is done by applying finely powdered French chalk, beginning at the centre, and moved all over the surface with circular strokes. The chalk being inclosed in a muslin bag, the corners and extreme edges are to be treated as well as the centre, for upon this application of the chalk depends whether or not the picture leaves the glass at a subsequent stage. The plate is now coated with plain collodion, or any tough collodion will answer. Equal portions of ether and alcohol, to which 4 grains of soluble gun-cotton and 4 drops of castor-oil are added, all soluble impurities being avoided. Set up on edge to dry; in one half hour it is ready to be coated with gelatine, prepared as follows: A reasonable quantity of Nelson's photo-gelatine is placed in a porcelain tray and just covered with cold water. After having been allowed to stand for a few hours, it is melted in a water bath, then filtered through muslin into a warm bottle. The plate is then coated by pouring a little of the gelatine on the centre, and spreading it over the surface by guiding it or by means of a glass rod. It is then laid flat until the gelatine sets, when it can be reared up to dry—when they will keep for a good long time. The prints are immersed in a warm solution of gelatine and carefully laid upon the plate. After the prints are down lift up the plate and examine through the glass to see that they are in proper contact and no bubbles intervening. If present, rub them out by gentle pressure with a squeezer, doing this gently and quickly, as the gelatine soon sets. A large wet sponge applied to the back of the print immediately after laying them down usually insures their becoming properly adherent to the glass. The glasses are now reared up until the prints are dried, after which they may be easily detached from the surface. The drying depends upon the state of the atmosphere, and it may vary from 6 to 24 hours, 10 to 12 being the average time. Another method is, take very clean plates carefully talced and covered with a film of normal collodion at from 1 to 1½ per cent. azotic cotton. These plates may be kept in grooved boxes, to be used as wanted. When a print is to be enameled take one of these plates, wash and place it at the bottom of a dish filled with water, place the print, which has been previously soaked, on the plate, the albumenized side against the plate; take out of the water the plate and paper and sponge between sheets of blotting-paper, changing them often until the disappearance of all excess of water; now heat the plate over an alcohol lamp, and at the end of two or three minutes, at a moderate temperature, the print separates from the plate and is found to be enameled. In five minutes all is done. If allowed to dry till the following day, the print is more than brilliant. Ebonite and ferrotype plates are frequently used to impart a glacé appearance upon prints. A well-cleaned plate laid flat upon a table and rubbed with a piece of flannel dipped into a solution of wax in turpentine until dry, is said to give perfect results, especially for bromide prints. Dr. Eder recommends the following to be applied direct to albumen prints: White wax, 100 grams; gum damar varnish, 4 grams; rectified spirits of turpentine, 150 grams. Keep in a dry bottle. When this mixture thickens add a little essence of turpentine (damar varnish, 3 to 3½ parts of gum to 24 parts of essence of turpentine). It is applied to the print by means of a rag.

ENAMELS—Are photographic images burnt into porcelain or like substances and coated with a glaze, thus rendering them perfectly permanent. Dr. Liessgang recommends the following process. A good sensitizing composition is thus made: Water, 100 parts; moist sugar, 10 parts; gum arabic, 10 parts; bichromate of ammonium, 4 parts. This solution should be used within one or two days and ought to be filtered with the utmost care, as any particle of dust or fibre will cause white spots on the finished work. The solution is poured on a glass plate as with collodion; the plate held in a horizontal position for a few seconds, the excess of the solution is quickly poured off, and the plate set to dry at an angle of about 150° with the horizon, and kept warm by a spirit-lamp placed underneath, distributing the heat by a few layers of blotting-paper under the glass. The temperature should not rise above that which the hand can easily bear. It is necessary that the positive under which the exposure is made should be quite dry or even slightly warmed. In ordinary cases an exposure of one minute in sunshine or ten minutes in diffused daylight will suffice, but an actinometer should be used as in carbon-printing. As soon as the exposure is made, the plate is taken to the dark room, placed on a white surface and some of the enamel color is sprinkled on and worked round about with a long-haired camel-hair pencil, both the powder and the brush being perfectly dry. The image now gradually develops, and it is often necessary to shake the powder from off the plate and allow the moisture of the air to act upon the film for a short time, after which the treatment with the enamel pigment is resumed. Should the picture appear hard, only the extreme dark shades appearing, it is over-exposed; but if the image is flat and all the high lights veiled, under-exposure is indicated. Just as in silver printing, the image should appear a few shades over-dark at this stage, as the enamel colors lose a little intensity when fired; but if there should be any difficulty experienced in attaining the required vigor, it is advisable to gently breathe on the plate, previously freed from all loosely adhering powder, and then proceed with the development. When the development is finished, all non-adherent powder should be removed by means of a brush, and any required retouching can be performed either by breathing on the plate, or cautiously applying the pigment on the part requiring it, or by removing the pigment by friction with a tuft of cotton wool or a stump. The plate is next coated with collodion containing 1½ to 2 per cent. of pyroxylin and about ⅓ per cent. of castor-oil, and after the film has set, it is cleared away from the edges of the plate, so as to leave a clean border of about ⅛ of an inch. The collodionized plate is next soaked in a 2 per cent. solution of caustic potash until all traces of chromium salts are removed from the film, and after a thorough rinsing in clear water, the plate is immersed in water containing enough nitric acid to make it taste as sour as weak vinegar, where it should remain for some hours. By now placing the glass bearing the film in a large vessel containing clean water and gently manipulating the pellicle with the fingers, it becomes easy to detach the collodion film, which is then caught, collodion side downwards, on the enamel tablet or tile. Should it be necessary to vitrify the picture with the collodion side upwards, the first transfer must be made by the aid of a solution of sugar equal to one-fifth its own weight, as otherwise the collodion film would be liable to scale off. In this latter case the collodion must be dissolved away before firing; but when the collodion film is mounted downwards on the plate or tile, this proceeding is not necessary. The most convenient method of dissolving the collodion film is by soaking the dried plate for a whole day in the following mixture : Alcohol, 50 volumes ; ether, 50 volumes ; oil of lavender, 100 volumes ; oil of turpentine, 3 volumes. All is now ready for the final operation, or the burning in of the image, and for this purpose some kind of muffle furnace is necessary. Schim, of Germany, has invented and patented a process whereby, instead of copying under a negative, a positive is used, and the finished enamel closely resembles the enamels of Limoges. There is an easy method of converting an ordinary glass positive into a pseudo-enamel ; for this it is sufficient to cover the print with one or two coatings of paint composed of silicate of soda and barytes white and to allow it to dry ; the print is then covered or not with paper and mounted in a frame. The paint is prepared by mixing up in a glass mortar a small quantity of barytes white with a little water until the consistence of stiff paste, and then, with a sufficient quantity of silicate, obtain a mass of the same density as an oil paint. Use a brush and cross the grain at each fresh coating, so as to equalize the tint. This paint is also excellent, when diluted with a little more water, to write on glass negative bottles, etc. See Enamel Varnish.

ENCAUSTIC PASTE — A paste employed to give to the finished print a brilliant surface without the employment of burnishers or of collodion. A very simple one is made from white wax, 1 ounce ; spirits of turpentine, 1 ounce. Melt the wax and add the turpentine while hot ; rub over the surface of the print on a piece of flannel and then polish with another clean piece of flannel till it assumes a burnished effect especially adapted to the prints.

Dr. Eder's Cerate Paste — White wax, 100 grams ; dammar varnish, 4 grams ; rectified spirits of turpentine, 100 grams. Keep in a drv bottle; when the mixture thickens add a little turpentine (dammar varnish is made 3 to 3½ parts of gum dammar to 24 parts of turpentine) and apply to the print by means of a rag.

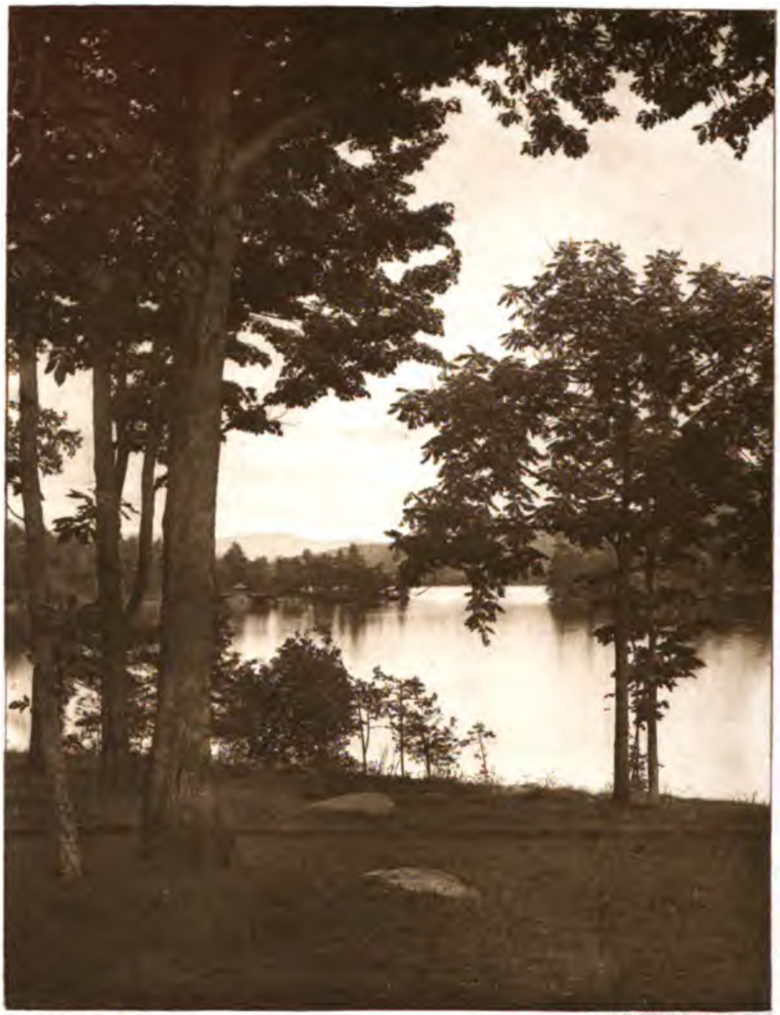
Salmon's—Pure white wax, 500 grains; gum elemi, 10 grains; benzole, 4 drams; essence of lavender, 6 drams; oil of spike, 1 dram. Melt the wax and elemi, add the benzole and other ingredients and allow to cool, stirring frequently. Smear a little of the paste on the face of the print with a tuft of cotton wool and polish with a clean piece till the surface is free from markings. It increases the depth of shadow and general beauty to a large extent.

Enamel Varnish for Positives—Ten parts of finely pulverized gum dammar perfectly dry and dissolved in 75 parts of ether and 75 parts of benzine; after all has dissolved, the varnish must be filtered and is then ready for use. The print, mounted on heavy board, should be burnished first; the varnish is then poured over it, as in coating a collodion plate. Dry for twenty-four hours and then reburnish. Gives the print a beautiful finish.

ENLARGING—The process by which we obtain a larger image of a negative or positive upon some sensitive surface. The history of enlarging processes, like that of all other photographic processes, is a record of progress more rapid toward the latter part than in the beginning. Thirty years ago the only method for enlarging was by the solar camera. The prints were weak, washed out, unstable, poor in color and deficient in half-tones There were two processes by which prints were obtained by the use of the solar camera, one the process of development, the other by printing. The latter was more employed in this country than abroad. The first departure from solar prints was in the direction of negative enlargements. A transparent positive was made from the original negative, and an enlarged negative made from that, and used for contact printing upon salted or albumenized paper. The conditions of success being but poorly understood, the results were at first very imperfect. The introduction of the carbon process by the Autotype Company, of London, was decidedly the greatest advance made. From that time to the present the process has been steadily going on. The wet plate, the dry plate and bromide paper are all now called into use, and with gratifying results. The illumination required in enlarging is either daylight—direct solar, through double ground-glass; diffused solar, by means of mirrors or reflectors, and diffused daylight—or artificial light, direct, through a system of condensing lenses, as in the lantern; or through double ground-glass, by the aid of reflectors, diffused. The latter produces a more even distribution of light upon the plate. Before describing the means to be used for either day or artificial light, it might be well to mention something required of the negative or positive that is to be enlarged. Flat glass should be used for both the negative and the positive; for if the plate is at all curved there will be sure to be a loss of definition on some part of the image, and absolute sharpness, which is a *sine qua non* for success, cannot be had; and errors or want of sharpness of focus, which in the negative, especially in small ones, cannot be detected by the eye, become pronounced when the plate is many times enlarged. The negative, if used, should be plucky and with good, but not too great, contrasts and of accurate density. In the positive the image must not be very dense, or very clear in the shadows, but of an opposite quality to transparencies required for the lantern. A thin, plucky positive fully exposed is a necessity. Without these qualities the enlargement or reproduction will be either harsh or flat.

ENLARGING BY DAYLIGHT—This can be done by solar cameras, by means of which sunlight is concentrated by condensers, etc. The cost of these cameras rather precludes their use by amateurs. Or by cameras especially constructed for the purpose of enlarging or reducing, consisting of two bellows about five feet each, connected by a frame, in which the lens is placed. At one end the plate to be copied or enlarged is placed, and at the other the ground-glass or holder of the sensitive film. The extension of one bellows and contraction of the other, or *vice versa*, enlarge or reduce the image. Or by ordinary cameras, either by backing the camera against an opening in a blocked-out window, or a hole cut in one side of the dark room, and placing the negative or positive to be enlarged either in the rabbit-slide of the ground-glass or in a holder, both slides having been withdrawn and the septum removed, and insert the holder in its proper place. All light must be excluded, except that which comes through the plate. Outside the window must be placed a white card or mirror larger than the plate, at an angle of 45°, so as to reflect light through the plate, and through the lens upon the sensitive film, which is held in its proper position upon an easel or board standing vertically. Or the image to be enlarged may be placed against the opening left in the blocked-out window. All other light than that through the plate being excluded, the camera, perfectly

(To be Continued.)



BY ALFRED STIEGLITZ N.Y. PHOTOGRAVURE CO.

A BIT OF LAKE GEORGE

[illegible]

[illegible] in the restless [illegible] of [illegible] but [illegible] time [illegible] The sun [illegible] set, but the outer plain quivered under [illegible] August heat. The

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[illegible] from page 256 of the July number.

THE AMERICAN
AMATEUR PHOTOGRAPHER.

A Monthly Review of Amateur Photography.

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F. C. BEACH. CATHARINE WEED BARNES.

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An Outing in the Cloud-Lands of Banff.*

BY ELY VAN DE WARKER, M.D.

II.

AND now for nine hundred miles, a third of the distance from New York to the Fasnet Light, the rails were laid upon the bottom of a vast ocean, bending over grassy swells like the heaving bosom of the old Devonian Sea, that lashed itself to death against its western rampart of rocks, and dried up and disappeared; or it may be that, at the time of the great upward thrust that sent the innermost rocks like a mighty wall into the sky, the face of the earth was lifted, throwing off its mantle of water like a world gone mad, and all this vast region suddenly felt the light and air for the first time.

Once upon the great prairie, the mystery of its origin overpowers one; so fresh and new is it, that one can easily fancy the mighty force that swept the waters back.

We turned off the miles with the restless energy of steam, but the space devoured miles and time alike. The sun rose and set, but the outlook never changed. The plain quivered under the August heat. The tremulous horizon blended with the gray-blue sky. The loneliness, the need of life and of habitations, the never-ending monotone of brown, withered grass, the monotonous undulations that blended with the formless level of the plain, were reiterated until every sense was tired. The plain gave the sensation of projecting beyond the sky-line. The vision, without perspective or vanishing point, prolonged the flat rotundity beyond the verge of the horizon until vision ceased and imagination began to work its delusive spell. Earth never appeared so vast before, nor the heavens so near. When night came the plain appeared to shrink within its mantle of shadows, and the great sweep of the cloudless, star-lit sky curved grandly beyond its uttermost bounds and regained its dominion.

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*Continued from page 296 of the July number.

Looking back upon the vanishing perspective of rails, it appeared to be in swift pursuit and trailing the sky-line after it. The delusion was complete. All day you carried your perspective and horizon with you. You could neither overtake the one nor leave the other. The rare sight of a house standing alone upon the plain, without tree or shrub about it, gave accent to the sense of loneliness. It was difficult to associate life with the changeless solitude. And yet it was once teeming with life. Buffalo by the million, and Indians and half-breeds by the thousand, roamed over its surface. The first is gone, and so fresh are his traces that it is difficult to believe that the splendid animal is obliterated. The trails of the buffalo can be seen streaking across the plain ; you pass their wallows along the roadside, as well defined as though made yesterday. The margins of little lakes and sink-holes have a wide border of denuded earth, where myriad feet stamped out all life as the horde pressed on to the water. Near many of the stations great piles of bones, bleached snowy-white, were laid up square like cord-wood. They had been gathered from the plains and were waiting shipment—a sad monument to the improvidence and greed of man.

As we move westward we begin to observe some timber in the shallow bottoms, and now and then a stretch of park-like country. The great farms we did not see, as we passed through that region in the night. We passed some towns of 2,500 to 4,000 inhabitants, like Portage la Praire, Qu' Appelle, Moose Jaw and Medicine Hat, spread out in an irregular way over the plain. Less than ten years ago the buffalo were grazing over the sites of these towns—a clear proof of the rapid settlement of the northwest.

You would never find it out through your unaided senses, but the country is steadily mounting to higher levels until, toward the western limits, you are between 3,000 and 4,000 feet in altitude—a mountain on the flat, and a gradual preparation for the final climax of the Rockies. Notwithstanding the difference in level between the eastern and western portions of the prairie, it is interesting to observe the perfect likeness in topography.

We were up early to see the entrance into the mountains. It was before sunrise. A pale lemon-color suffused the eastern sky. A few prolonged fringes of light reached upward. Shadows gathered about the foot-hills, which stretched out to the westward in conical masses. We rounded the shoulder of one of these, and before us was a valley. Upon the left a small river foamed over the rocks, its still water inky black in the half light. Before us was a grand upheaval of ill-shaped rock—steepled, crested, buttressed and riven into endless seams and scars, their feet obscured in shadows, and within the embracing rocks spaces black as night. North and south, in endless procession, these masses, grandly dominating the slumbering world, blocked our way.

Like no other mountains on earth — Dantesque, horrible, a nightmare in eternal rock. Their crests had already caught the first light and were warming under a faint glow of color, the few white patches of snow that clung to the precipices taking on a warmer tint. As you approach, it seems impossible that the railway can find an opening, but the road worms its way along, and at last you are in their very midst, literally emboweled—a vast, precipitous mass of rock upon your right, and the friendly river that has wrought this passage for you fretting its way upon the left almost under the very rails. This is the canyon of the Bow River and the gateway of the mountains. In half an hour we were in the midst of a congregation of peaks and crags, the sinuous road giving us a series of dissolving views. The early light, with nearly level rays, threaded the defiles, touching here and there a crenelated summit with an amber glow, relieving the grimness and desolation with a touch of jocund day. Dark shadows brooded on the western slopes and in the deeper gorges.

It is difficult to give a picture in words of the scene. Possibly the sense of vastness is accented by the abrupt contrast with the monotony of the plains, of which you have grown physically and mentally tired. We have associated so many forms with the word "mountain" that you feel the need of another term to describe a rock that is planted in the earth and rends its way into the clouds. They are mountains in a horrible masquerade. No green thing can find room upon their precipitous sides; no lodgment for snow or ice except in streaks, or dot-like patches. The sense of wrath and violence and desolation that fell upon the earth, and is told in the story of these rocks, is overpowering. We can understand from their geology the nature of the cosmic forces that created them in their present form, each separate crag a fit model for a Doré in the weirdest illustration for the Inferno.

The geologist of the railway describes them as "tremendous uplifts of stratified rocks of the Devonian and Carboniferous ages, which have been broken out of the crust of the earth and heaved aloft. Some sections, miles and miles in breadth and thousands of feet thick, have been pushed straight up, so that their strata remain almost as level as before ; others are tilted more or less on edge (always on this slope toward the east), and lie in a steeply-slanting position; still other sections are bent and crumpled under prodigious side pressure, while all have been broken down and worn away until now they are only colossal fragments of the original upheavals."

The railway station at Banff, a very picturesque building, is built of logs, barked and varnished; and a delightful hotel, about a mile and a half away, well appointed and well served, at reasonable prices, is kept by the company. There is another comfortable hotel, known as the Sanatorium, and more frequented by invalids than the larger hotel. The hot sulphur springs are the medicinal attraction, and are much in favor with our bibulous neighbors over the line, who resort here to have their gout cured. The bath-houses and springs are maintained by the government, who have made about 200 square miles of this region into a national park, something after the manner of our own Yellowstone. The principal spring is well worth a visit. The chamber into which the water discharges is entered by a passage about fifty feet long into the base of the Sulphur Mountain. The room is about forty feet in diameter, with a dome-shaped roof, through the centre of which a feeble light penetrates. A platform is built upon one side for the convenience of bathers. The temperature of the

LOWER VALLEY OF THE BOW.

water was from ninety to one hundred degrees, and made the temperature of the cave unendurable. The opening of the passage is through a house well equipped with all the requisites for bathing.

Banff is a revelation. The Bow River winds through a valley instead of a canyon, affording the distance necessary to give a view of the awe-inspiring summits and ranges clustered about. The hotel of the company is situated with great judgment upon a lofty bench overlooking the valley of the Bow in its lower reaches, where it makes its way to the junction of the Cascade River. The Rundell Mountain range, ends abruptly in a mighty escarpment, and frames the picture upon the right. On the left the partially wooded declivities of Tunnell Mountain; and between these abutting declivities of rock in solemn gray and brown, unfolds a valley as sweetly green and gentle as ever basked in sunlight or gloamed beneath the moon. The Bow River twined among its islands, set like emeralds in a girdle of silver. In the middle distance the splendid colonnade of the Cascade range terminated the view. Nearer, upon the right, a rugged shoulder of Mount Inglismaldie towered aggressively 10,000 feet, and upon the left the serrated declivity of Stony Squaw Mountain, with its fretwork of snow, gave a harmony of proportion to the inclosing mountains. The scene before us appeared like a realization of the Peaceful Valley that Johnson tells us of in the old romance of "Rasselas."

CASCADE MOUNTAIN FROM BANFF.

Upon this view you have been looking northward. Now make a half turn to the right, and before you lies the valley of the Upper Bow. It is like gazing into another world, a world in fragments and in ruins. It was a scene such as Milton may have seen with poetic, inward vision, or Dante dreamed of as the abode of fallen angels. The valley is defined in rugged grandeur by the Vermilion range upon the north, the Sulphur Mountains and the Bourgean range upon the south, the serrated summits of the Sawback range, ten miles away, closing the view. But what endless forms of rock and crag with the look of unutterable age! The rock is crumbling away in vast slides as though a touch would send a whole mountain-side in vast avalanches of *débris* into the awful gorges that lie between the abutting cliffs. These are mountains in ruins that have lived their eons and died, and have been buried beneath the fragments of their ancient grandeur, torn down by the ceaseless labor of frost and storm. These are, geologically speaking, the oldest mountains upon the earth, and all about us tell the same story of cosmic age.

CASCADE CANYON AND MOUNTAIN.

The Bow River above the falls, which may be seen from the hotel, in what I have called the upper valley, is navigable for about ten miles in a steam-launch. It is a voyage well worth making. It is going into the primeval, untouched heart of Nature, where man is of small account. The timid crow sits on some overhanging branch and eyes you with fearless curiosity; the wild duck feed under the sedgy banks, or lazily skim over the water almost from under the bows of the boat. The shifting points of view as you wind along give an infinite variety to the outline of the mountains. Precipice and gorge, or mountain crest, with which the eye has become familiar, take on forms strange and weird as the boat makes a sudden turn. New effects of light and shade, new tints of brown or slaty black, new views of distant ranges, or of snow-capped domes, seen through the doorway of some vast defile, constantly catch and delight the eye. We made a discovery as we voyaged up the river. I say we made it; for no one at the hotel had ever seen it, although they all wondered why when we pointed it out to them. It was the profile of an upturned face on one of the loftier crests of the Sawback range. A cold, aggressive, lordly face with overhanging brows, aquiline nose, and mouth and chin set and hard like that of a merciless ruler of men, or that of priest and seer of some ghastly fetich. It seemed to have a haunting personality. Once having seen it, turn which way you would, unconsciously you would find your eyes fixed upon the strange old face.

It is through the valley of the Upper Bow that the sunset effects are seen. It is a monotone of color, that of iridescent amber, that pours through the defiles of blackened rock in cascades of gold. Daylight fades reluctantly in these northern latitudes, and although it is the latter part of August one can read comfortably until twenty-one o'clock, as it is called here. The blotting out of warmth in the western sky, the slow interchange of gold for the color of tempered steel, give it a solemn charm and mystery. When the last gleam of color has faded, a deadly cold creeps down from the ice-capped summits and compels one to seek the ample wood fire in the great office of the hotel, before which the guests sit and bask in a semicircle that continually widens to admit new arrivals.

A VIEW IN THE SAWBACK RANGE.

But I must stop here. The story of all the glories to be seen at Banff is not half told. There is the Devil's Lake, that will linger on the memory like a frightful dream ; Lake Louise, into which the vast helmeted crest of Mount Lefroy pours its hourly avalanche of ice ; and sweet and charming among all these horrors of rock and precipice is the Valley of the Spray.

One Way to Handle Aristo Paper.

BY F. A. HETHERINGTON.

FOR making prints easily and quickly the aristotype paper is well suited. No other finish for small prints equals the beautiful polish which is obtained by squeezing the wet prints down upon ferrotype metal. But to preserve this finish in its pristine beauty in the after-processes of mounting has always been, to me, an impossibility. A few experiments recently made have led me to adopt a method which has proven entirely satisfactory, and, as far as I know, is novel.

For the benefit of others who may have like difficulties I submit the method herewith: After the prints have been properly squeezed upon the ferrotype metal by the use of oiled silk and a rubber squeegee, they are allowed to become about half dry, and then their backs are evenly coated with clean gum-arabic or common office mucilage, such as is sold by the stationers. It is not necessary to use any great amount of care in this operation. With a large brush they may be quickly coated; if the gum goes over the edges and on to the metal it does not matter, except that care must be taken to wash the gum from the plate before again using it.

The prints are now allowed to thoroughly dry in the usual manner. It may be necessary, if the gum has run over the edges of the prints, to start them up when dry with a knife-blade. They may be now trimmed as desired and laid away for future mounting, or be mounted at once in the following-named manner:

Cut a sheet of ferrotype metal into pieces somewhat larger than the mounting card. Pass now a damp sponge over the surface of the mount and also the back; place the print upon it in position, and lay upon the surface of the print the polished side of the ferrotype sheet; now place the whole within a thin book and press in a letter-press. Allow the pressure to remain a moment or two, as in letter-copying; then remove the print, and it will be found adhering closely to the mount and still retaining its flat, polished surface. It is well to rub the surface of the piece of ferrotype metal with a piece of flannel which has been rubbed against Castile soap.

If mounted in this manner prints will not curve. A variation of the manner of mounting is to place over the prints after gumming, and while still upon the plate, a piece of thin muslin. The whole may be then stripped from the plate and the prints trimmed as usual. This plan is suitable for photographic prints to be carried by traveling salesmen.

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MAUD.—"Oh, Edward, do you not weary of leading a commonplace life? Do you never aspire to something to separate you from the vulgar herd—something no one else has ever attempted?"

EDWARD.—"Oh, Maud, you wrong me! Have I not taken up amateur photography?"

The Platinotype Process with Cold Development.

BY ALFRED STIEGLITZ.

SOME few months ago Mr. Willis, of London, the inventor of the platinotype-printing process, brought out his latest improvements in the platinotype-printing paper line, a paper similar to the old hot developing one, but one which now can be developed with a cold solution of oxalate of potash, besides having numerous other advantages, some of which will be mentioned below.

The writer had been trying to get some of the new paper, but did not succeed until a few days ago, when a batch of 4x5 paper was forwarded him for trial.

The following are some of the observations made :

The paper is not sensitive to moisture in a way to spoil it. Traces of moisture, on the contrary, are beneficial to the resulting color of the print. In other words, this new paper has better keeping qualities than those of the old process.

The sensitiveness of the paper experimented with was about equal to that of the old paper, or four times as fast as ordinary silver paper.

The great advantage of this new paper over all other platinotype papers brought out so far is the enormous latitude given the operator in development. This is no longer a purely mechanical operation, as was the case with the old paper, where correct exposure was everything, but with this paper development has become quite an art, although very simple at that.

Several variations of the developer may now be made to suit different negatives, so that one has it in his hands to use any kind of negative—that is, negatives of any density. For thin negatives a weak developer is used—that is, the normal developer diluted two or three times with water. In over-printing, this developer is also used with advantage.

In order to increase the brilliancy of a print, say from a flat negative, a little glycerine added to the diluted developer will work like a charm.

The writer used a normal developer, a saturated solution of oxalate of potash, for normal negatives only—that is, for negatives of medium density, full of quality and gradation ; for all other grades of negatives the developer was varied.

In order to develop, the prints were immersed in the solution until the whites were perfectly clear, by which time the blacks will have gained sufficient strength. The whole operation lasts about fifteen seconds. After development the prints are plunged into the usual cleaning solutions, as of old, of course *without* any washing in between.

By being able to use developers of varied strength, a new field of development has been opened to us. We are enabled to *paint out* the picture—that is, we can develop by means of brushes, soaked with developers of varied strength, and so *force* out certain parts of the print, while *keeping back* others. This, of course, can only be done by those who have some training in drawing and an eye for the beautiful. If correctly manipulated, no streaks will be visible in the finished picture.

These few remarks will show the immense value of this latest addition to the already numerous list of printing papers, which is now undoubtedly headed by the "*platinotype with cold development*"—a thing of beauty and a joy forever.

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Deficiencies in the Training of Photographers.*

BY HOWARD FARMER.

EARLY GUIDANCE.—When it is known in the early life of a lad that he will probably become a photographer, his training should commence during the latter years of his school-life. His studies can then be guided in directions which in after years will be directly useful to him in his professional capacity, and he will acquire knowledge rapidly that may later save him much labor and effort.

Where this has been done it will be generally found that the directing parent has been a photographer or connected with photography, and in such cases the same forethought which has guided these early studies into useful channels has probably continued this direction to a successful *dénouement.*

Importance of Continuity.—But the majority of those who become photographers have their career decided after leaving school—sometimes a good many years afterwards—and it is to these my remarks more especially apply. As an example, we may suppose a lad has left school, and not until he has subsequently spent a year or more in holiday-making is the important decision made as to what his life's work shall be, and steps are taken to start him on his career.

Now, while the whole of our sympathies may go to aid the lad's pleasures in the heyday of his youth, the stern competition of life enforces the doctrine that this, the most valuable portion of his life from an educational standpoint, must be utilized to the utmost, and in doing this there is no need to deprive him of his pleasures, but they must come in as a complement, forming natural divisions to his work.

It is well known among teachers that the assimilative power for new knowledge usually falls off very much after the age of twenty or so is reached. This is especially the case when a lengthy gap or interval has been allowed to occur in the training, and a mass of evidence to support this occurs with photographers in the very small proportion who, however hardly they may be pressed, attempt even to increase their knowledge; and the steadfast application required from those who do, it is not too much to say that, independent of the inferior value which knowledge acquired at the age of twenty-five to thirty possesses, as compared with the same knowledge acquired at from fifteen to twenty, the labor and application necessary in its acquirement are three or four times as great at the more advanced age.

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* Read before the Photographic Convention of the United Kingdom, Edinburgh Scotland, July 13, 1892.

It is from considerations such as these we are forced to conclude that, in allowing a lad's training to stop suddenly when he leaves school, if only temporarily, for a year, not only are the best fruits which might readily follow from the cumulative effect of his previous training left ungathered, but before he has arrived at an age when he himself may fairly be held in some measure responsible, his future status is placed in jeopardy.

Insufficiency and Uncertainty of the Apprenticeship System.—We may next suppose that the lad forming our example is apprenticed or placed to learn his trade with some firm of photographers. In accomplishing this the parent may frequently consider that he has now fairly started the lad on his career, and, so far as any further training is concerned, leaves it to the care of his employers and the lad's own devices.

Almost universal as such a method of starting a photographic career is, the demonstrable insufficiency of such a procedure is only too complete. In the first place, the professional education, excepting so far as acquiring manipulative skill and a knowledge of some aspects of the commercial economy of the business is concerned, leaves off where it ought to begin, and, although no one will hesitate to admit the prime importance of manipulative skill and of business methods, the trained photographer nowadays requires a great deal more in order that he may attain any status. In the second place, even the manipulative work is confined to one or two specialties, whereas the student wants at this, the very early stages of his career, and before specializing, trial practice in all branches. Thirdly, the skill acquired will depend largely upon the attention devoted to the student by the employer and fellow-employees, which introduces an element of uncertainty into the training, and to which may be added the inevitable proportion of time which is wasted or during which no progress is made. There are also other reasons, which at first sight are not so obvious, why the old system of apprenticeship, which is fast disappearing in other trades, must also in photography disappear, or be largely modified and supplemented in order that the photographer may not only acquire an honorable status in his profession, but also keep on a distinct level above his neighbor the amateur.

Technical and Art Training, the Prime Necessity for.—After his training has commenced, our supposed young apprentice finds there are at least five distinct sides to his subject, as follows:

1. The practical or manipulative. 2. The technical. 3. The commercial. 4. The artistic. 5. The scientific.

Each of which requires his attention in a greater or less degree, depending upon the character of the work to which he intends devoting his abilities. To convey some definite idea of the average relative importance of each of these divisions, it will be necessary to consider them individually.

1. *Practical.*—The manipulative skill required for most branches of photographic work is not of a very high order; for example, the actual operations involved in the taking of a portrait or landscape negative are all of a fairly easy character, and require but little experience and practice on the part of a student to perform them with regularity and success. Notwithstanding this, the chief help which the student usually derives from his work with his employers is confined to a sufficiency of experience in these easily acquired manipulations. There is, however, one special branch of studio practice which requires a very high degree of skill, and that is retouching, and in other departments of photography, such as working large wet plates successfully, some portions of process work, and others, considerable manipulative skill is essential.

2. *Technique.*—It is not difficult to show that the main foundation of photography as a profession lies in its techniques.

Whether in the artistic or scientific departments—in landscape, seascape, motion, architecture, reproductions, or printing processes—the worker who is trained in either of them is the one who excels; and on examination it is found that the success depends not so much upon any particular difficulty in performing the necessary operations as upon *a complete familiarity with the minutiæ and details of procedure,* which give the best result under particular conditions. The reason that several years' training is commonly necessary to get a full percentage of successful results in any one of them is due to the fact that the worker has not had the opportunity of learning, in a systematic form, the minutiæ and special factor which govern different classes of work, but is left, like a man groping in the dark, to find his way slowly and laboriously by the method of trial, and, even if he has the guidance of a fellow-worker, it is one who has found it himself by trial and experience, and can only impart it in the same manner.

Take two beginners of identical abilities, perseverance and general education; give both the average training obtained as apprentices to a photographer, and give one of them, in addition, systematic instruction in technique. The latter will become as good a photographer in one year as the former will in four years, and will ultimately become a much more competent and independent worker.

3. *Commercial.*—Important as a training in commercial economy undoubtedly is, and which includes such subjects as economy of time, material and wages, value of specialism and enterprise, punctuality, tact and politeness, treatment of employer and employees, accommodation to circumstances ; in fact, all the minutiæ which together form the system of a successful business man, this side of his training is one which, in great measure, would be the same in all trades, and which therefore is rather included in his general education than in his specially photographic one. That photographers as a body are behindhand in this department of their training is, however, a fact very widely conceded.

4. *Artistic.*—The value of an art training is second to none in the whole range of a photographer's studies, as it invariably gives the stamp of superiority to his work. This is abundantly testified in public displays of photographs, where the pleasing effects in light and shade in composition and selection produced by artistic feeling or culture deservedly take the first rank.

5. *Scientific.*—The value of a purely scientific training to the working photographer has, in my opinion, been a great deal overestimated. In the early days of the art, when the worker had to go through a series of delicate chemical processes for each photograph taken, and when the successful performance of these processes was alone sufficient to tax the knowledge and skill of one individual, it may have been true that a trained scientist was the best man. But, in these days of dry plates and ultra-simplified printing processes, photography, except in its purely scientific divisions, is being lifted above a test of chemical knowledge or optical expertness, and in taking its position as by far the most valuable handmaiden, the fine-arts' process must sooner or later be admitted into partnership with them.

The chief use of a knowledge of chemistry, molecular physics and optics to the photographer, independent of the general educational value, lies in their giving him a clearer insight into the sciences he utilizes in his work, and thereby inducing an interest in it which acts as a powerful antidote to the apathy which is so fatal an enemy to progress.

More Care Required in Specializing.—Another division of his subject is recognized by the photographer more and more clearly as his work proceeds. Having probably started by associating photography with taking portraits only, he becomes conscious of fields and scope for work in which portraiture plays no part ; he finds workers devoting the whole of their time and energies to landscapes, to copying, to architecture, to printing, or to process work ; and even in portraiture alone he finds one worker devoting himself to operating, another to retouching, and a third to printing. He begins to realize that it is impossible for an average individual to master every branch of photography, and so it comes about that he, like the others, has to select some departments and reject others —in fact, specialize.

In doing this he is usually guided by what he considers the most lucrative portion of the art, and in most cases portraiture seems to be chosen. It is, of course, a matter of opinion as to which branch of photography offers the most lucrative openings; but in my opinion the prospects of a landscape or general worker, or a reproductionist, at the present time, are better than those of a portrait photographer, these prospects being not so much in the silver print as in the collotype film, the copperplate or the type block.

There are other factors also which should be considered in deciding upon the direction in which to specialize. The probationist, while it is still in his power, should be guided more by his own capacities and temperament than he is at present. If he likes indoor life and delights in the human figure, he would be unwise if he did not take up portraiture; but if an outdoor life suits his constitution and tastes, he would be equally unwise if he did not specialize in landscape or other outdoor work. For town life he must be more expert and specialistic than for country life, for which a good general excellence is better suited. And, again, according to his proclivities, he should choose the artistic or manipulative sides of his subject.

Whatever special branches he ultimately adopts, a good general and art education, and a good technical and trial knowledge of all the principal photographic processes, with their individual applications and possibilities, should form the basis of his work.

Evidence of the Present Insufficiency of Training.—Evidence of the insufficiency of the present system of photographic training is everywhere present. In the extremely limited range of most workers' manipulative skill, which, while good in itself when carried to sufficient perfection, and supported upon a general foundation, is frequently mere rule of thumb, so that the results are capricious, and, in taking up new processes or methods which the progress of technology or discovery may render advantageous, the worker finds himself but little better than a novice.

In the deficiency of technical, artistic and general knowledge, so commonly met with, which, while it is excusable among those who, interested in photography, are not expected to know its minutiæ, it is inexcusable among those who are supposed by their calling to have been properly educated in the art they profess; and last, but not least, in the surprising facility with which a determined outsider will place himself on a level with workers of a lifetime.

A Remedy.—It is, I believe, in the spread of a sound and largely extended intermediate or supplementary training to that of the school and the studio that the photographer will not only occupy an impregnable position as a specialist, but will also learn how to utilize to the *uttermost advantage* the factors and processes at his disposal, and in so doing will both kill the unskilled competition from which he in so many cases at present suffers, and will place his business on the soundest of all foundations.

A Lazy Amateur's Stray Thoughts.

BY M. Y. BEACH.

DO we photographers sufficiently appreciate the hen in our art? Three albumen paper factories in this country use three million eggs annually in the preparation of photographic printing paper. In round numbers, this would mean an egg a day every day in the year, Sundays included, from three thousand hens, or a thousand hens to each factory. Then one hundred factories would need the product from one hundred thousand hens on an egg-a-day basis to give them the proper supply of albumen. But, as hens go, probably half a million hens would be needed to keep up this enormous egg supply year in and year out. No census bulletin has yet been issued on this subject. Probably such a document would be called fraudulent by disgruntled Farmers' Alliance chaps, or agriculturists seeking free land, cheap money, and a system of banks for farmers, run by the government. In scanning the files of the leading agricultural papers for the last fifty years, as well as all of the government agricultural reports, and reports of international commissions established for the purpose, we fail to find any generally accepted figures relative to a hen's capacity to lay eggs. None of the experts seem to agree on this question. However, sufficient evidence has been presented to prove that all photographers should be deeply grateful to the humble barnyard biped for her contributions to the cause of fine art. In these days of monuments to distinguished people, perhaps it would not be amiss if the photographic associations of the land should commemorate the hen in bronze.

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Hand-cameras are so plentiful nowadays that presumably every new purchaser is supposed to have a semi-instinctive knowledge as to how to work the thing. One would judge so after reading some of the directions accompanying certain makes of cameras. We have before us a book of instructions which designates one part of the camera by only three different names. In heavy-faced type you are warned to be sure and follow directions, if you would insure success. To the trembling amateur, who hardly dares breathe lest he smash something in his new camera because of not following instructions, the need of an editor in camera factories is painfully apparent.

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Photographic portraits without retouching ought to be the fashion. When I have a picture of any friend's face, I want a perfect likeness, and not something which the photographer thinks artistic because characteristics of the face have been removed. If there are wrinkles in the face, I wish those wrinkles to appear in the print. If there is a mole on the end of the nose, let the picture show it. Don't produce a picture that misrepresents—something that takes ten years off from the subject's age. Produce the facts.

Magic Photographs Developed by Smoke.

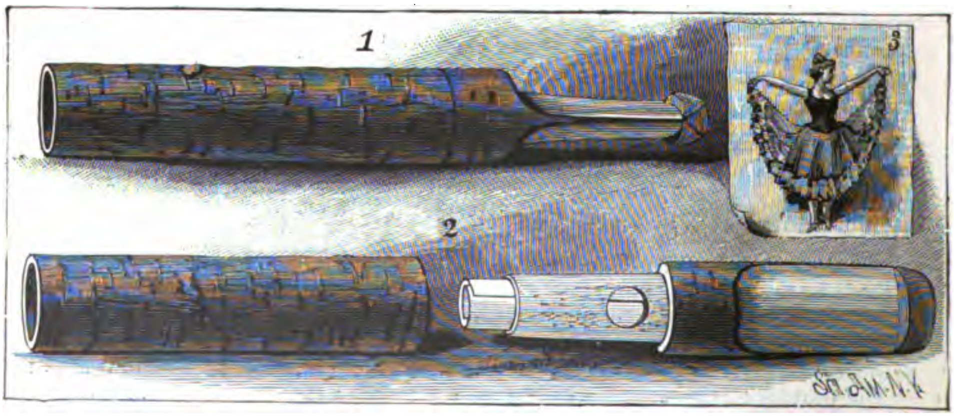
CONCERNING this subject the *Scientific American* says: Among the novelties recently introduced here, we find a curious thing in photography. It consists of a cigar or cigarette holder, accompanied with a small package of plain white photographic papers about the size of a postage stamp. If one of these papers be placed in the interior of the holder, before an orifice arranged for the purpose, the tobacco smoke will come in contact with it and develop thereon a portrait or other object.

DEVELOPING THE PRINT.

The process employed is very simple, and consists in preparing a small photograph on chloride of silver paper, and dipping it into a solution of bichloride of mercury, so as to bleach it and cause it to disappear. It is necessary to prepare the photographs without gold. The bichloride of mercury changes the photograph partly into white chloride of silver and partly into protochloride of mercury (which is also white), and thus renders it invisible on the white paper.

The image may afterward be made to appear by the action of hypochlorite of soda, or by that of ammoniacal vapors. Tobacco smoke, which contains vapors of ammonia, succeeds very well, as we have above noted, and colors the magic photographs black.

In the annexed cut, Fig. 1 represents the cigarette-holder closed; Fig. 2 shows it open, exhibiting the orifice and showing one of the small plain papers inserted in the holder, and Fig. 3 shows the paper after the image has been developed upon it.



PHOTOGRAPHIC CIGAR-HOLDER.

Shall Amateurs Do Their Own Printing?

IT is everywhere admitted by those qualified to judge that, in both the artistic and the technical in photography, we are surpassed by the English. The reason for this it would be difficult to point out, unless it is the existence of a larger leisure class among our transatlantic brethren, and a greater number of exhibitions where good work may be seen and studied. But it is not of the why and wherefore of English superiority that I propose to write.

By learning from those who excel us we more rapidly progress, and I wish to call attention to one point insisted upon in England—amateurs must do their own printing. For this there are three reasons: 1. All are placed on an equal footing. Every lover of fair play must earnestly desire such a result. 2. More pains are taken with the negative when the amateur feels that the printing will fall upon himself alone.

I wonder (to digress an instant) how many non-printing amateurs dream how difficult a matter it is to print successfully. In the first place, a choice must be made of a process most suitable for the negative, and the field is indeed a wide one; then comes the desired tone and how to give it in practice as well as in theory. The printing in or bringing out of clouds is another essential element of success; while the shading down of intense whites and the holding back of too heavy shadows require the utmost care. In preparing work for exhibitions an intimate friend recently discarded twenty-three platinum-sepia prints out of twenty-four. Upon them he had spent considerable parts of three days. Overprinting and underprinting, bubbles and stains, tears and finger-marks—but it is needless to go over a list only too well known to all who have tried. "Any one can print," say non-printing amateurs. Alas! they are far from the truth.

3. By varying the technical excellence of exhibits, the work of the judges at exhibitions is made less difficult. This is the most important point of all.

At the recent exhibition in Boston, under the auspices of the Boston Camera Club, of so high an average was the work that the judges felt called upon to make forty-two awards for photographs among a total of one hundred and ten exhibitors. Where the names of thirty-eight per cent. of all competitors appear as prize-winners, it certainly verges upon the ridiculous. Let us take a look at the awards in detail. Of the twelve medals distributed, five went to England, five to the Boston Camera Club and two to other clubs of the United States. The entire exhibits of all the Englishmen were finished by themselves.

Of the Boston Camera Club, two members did all their own printing, while three did not. Of the two members of other clubs, one finished his entire exhibit. Three Englishmen received diplomas. As before, the entire exhibit was the work of each.

Ten diplomas went to the Boston Camera Club. Of these ten members but two did all the work shown by them. Other photographers were awarded seventeen diplomas. Of these, ten did all their own printing, and seven received outside assistance. *En résumé,* the eight successful Englishmen did all work upon their exhibits; four of the fifteen winning members of the Boston Camera Club were unaided as to all their photographs, while eleven of those who won in other societies did all their own printing and eight did not.

About 55 per cent. of all the winners relied upon no outside assistance for their prints. When nearly half the exhibitors are aided by professionals, it is certainly time something was done looking to compulsory printing, or the creation of a lower class of awards for non-printers. Many superb exhibits at Boston, the work of the exhibitors from the inception of the idea until the print hung dry on the clips, were passed unnoticed by the judges or awarded diplomas only, while other exhibits—very beautiful, it must be admitted, were medaled, though not entirely the work of the exhibitor whose name they bore. A certain set of pictures at this exhibition was highly commended by a photographic journal, particular stress being laid on the beauty of the printing process and the skill shown in its manipulation. The exhibitor of these pictures did not do his own printing. *Cui laus?*

At the present time in England so great a stress is laid upon printing that, upon the exhibition blanks, beyond the title of the picture and the printing process, no questions are asked. It is not too much to say that the development of a plate at the present time is less difficult and less subject to accident than the making of a print, or such a print, at least, as an expert may judge to border on perfection. In the monthly criticisms of the London *Amateur Photographer* on pictures submitted at their competitions, fully three-quarters of the adverse comment relate to printing.

I know that my views as to making printing obligatory are shared by our principal amateurs, who do all their own work, and I sincerely hope that those who do not, whose artistic work at Boston filled me with admiration, may be induced to cross swords upon equal terms.

Matt Silver.

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A Convenient Camera.

By George M. Hopkins.

WHILE it may be too early to say the old-time plate-holder camera has had its day, it cannot be denied that magazine cameras of various kinds are superseding the old-fashioned camera, especially among tourists and others who desire to accomplish a great deal photographically in a very short time. The magazine camera is in photography what the Gatling gun is in warfare. It enables the operator to not only secure a great number of subjects, but it often allows him to get a view which would be lost if the plates were to be changed by the clumsy device of the ordinary plate-holder.

The low price and good quality of plates and cut films contribute in no small degree to the success and popularity of the magazine camera. There is, however, still a bar to its very general use; that is the high price at which these instruments have been held. As their construction has been somewhat complicated, and as good workmanship is necessary to insure accuracy and reliability, the cost of manufacture has been so great as to warrant existing prices.

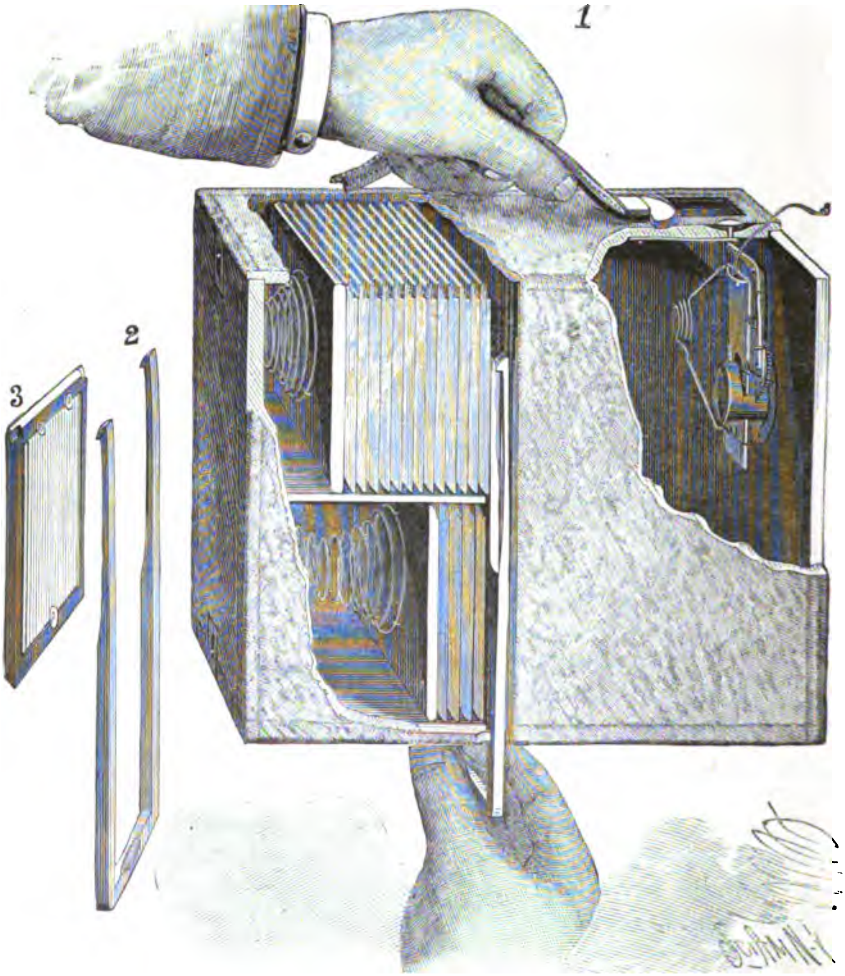
The engraving represents a magazine camera which is reliable in its action, and at the same time so simple that its construction is quite within the range of the amateur or ordinary mechanic.

A plate-holder or kit is required for each plate or film. The holder consists of a hard wood frame a little larger—inside measurement—than the plate or the film holder, with a piece of thin veneer glued to the back. The upper edge of each holder is beveled on the front, while the lower edge is beveled on the rear, as shown in Fig. 3. Two washers or burs let into the upper part of the frame project into the space which receives the plate, and in a recess in the lower part of the frame is pivoted a button which, when turned transversely, holds the lower edge of the plate in the holder. In the face of the holder at the upper corners are formed notches for receiving the nibs of the hooks which are used for changing the plates.

The camera box is divided by a vertical partition into two compartments. In the front compartment is located the lens and shutter, while the rear compartment is subdivided into two similar chambers by a horizontal partition, which extends toward the vertical, leaving a space which is sufficient to allow the holder lying in contact with the vertical partition to be transferred from the upper chamber to the lower one.

To the rear end of the camera box—which is removable—is attached a pair of pillow springs, which hold the plate-holders in the two chambers in contact with the vertical partition. To the end of each spring is attached a follower, which bears against the plate-holders. The upper follower has square edges all around; the upper edge of the lower follower is beveled in the same manner as the plate-holders.

The vertical partition has opposite the lens a rectangular opening, through which the plate is exposed, and in the vertical partition are formed grooves about three-sixteenths inch deep and wide. In the bottom of the box, opposite these grooves, are formed mortises for receiving the U-shaped shifting rod which slides in the grooves. The upper ends of these rods are reduced in thickness, and bent rearward slightly to cause the nibs at the ends of the bar to enter the notches in the upper corners of the holder. After the first plate is exposed the shifting rod is pulled down, thus carrying the plate-holder from the upper chamber downward into the lower



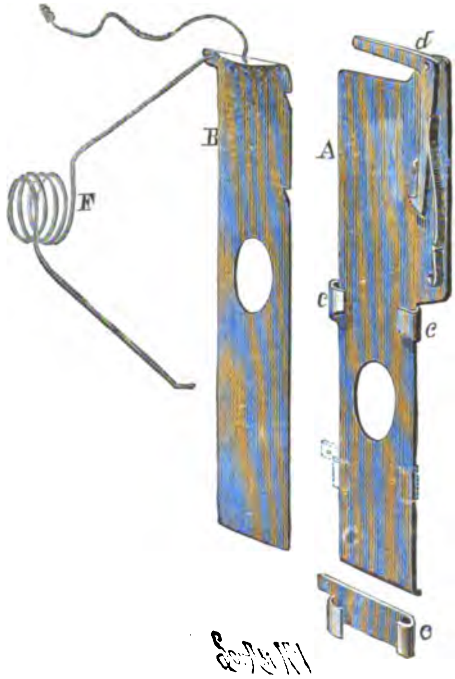
MAGAZINE HAND CAMERA.

chamber, in front of the follower, which is forced backward by the engagement of the beveled lower edge of the plate-holder with the beveled upper edge of the follower. After the second exposure the plate-holder is drawn down in front of the first plate-holder, and so on.

It will be seen that the magazine may be made for any number of plates.

The lens in the camera illustrated is a wide angle achromatic of short focus. It is fixed at such a distance from the plate as will enable it to cut a clear, sharp image at a distance of eight feet. No focusing mechanism is provided, as it is found that better results can be secured in a camera of this kind by having the lens in a fixed position. The lens tube is provided with a revolving diaphragm located between the lenses.

Lenses of this kind, suitable for hand-cameras, can be purchased from the dealers with or without a shutter. A very simple and efficient shutter is shown in Fig. 4. It is inserted in slots formed in the lens tube, behind and very near the diaphragm. The narrow end of the plate, A, forming the fixed portion of the shutter is provided with ears, *c c*, which act as guides for the slide, B. A clip, *e*, placed on the lower end of the plate, A, guides the lower end of the slide, B. It is held in place by a lip on the lower end of the plate, A. The plate and the slide are each pro-



FIG, 4.—THE SHUTTER.

vided with a circular opening a little larger than the largest aperture of the diaphragm.

To the plate, A, is pivoted a spring-pressed trigger, *d*, which engages the notches in the edge of the slide, B. One end of the spring, F, is inserted in the plate, A, the other end being attached to the slide, B. The upper end of the slide, B, is bent over and perforated to receive a stout string, which extends through the top of the camera and is used for setting the shutter.

To the inner surface of the camera top is attached a flat spring, the free end of which projects over the horizontal arm of the trigger, *d*, and is provided with a button extending through the camera top. By pressing this button the trigger is operated and the slide, B, is released. As the slide is carried downward by the spring the holes in the slide and plate, A, coincide for an instant, thus making the exposure. To change the diaphragm it is necessary to open the front of the camera. To prevent the exposure of the plate a swinging door (not shown) is provided, which closes the opening in the vertical partition, preventing the access of light to the plate. For time exposures the shutter is set open by catching the trigger in the middle notch and using the cap. The speed of the shutter is varied by using springs of different strength.—*Scientific American.*

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PICTURE IT!

What a picture they made!
She in shine, he in shade;
He in gray, she in green;
And the background a scene
Of woodland and glade
In summer-bright sheen.

So I focused the pair,
As I did, thinking: There
Is perfection of pose;
But Lothario rose
As the button I pressed,
And leaned for a kiss.

O, the sorrowful rest!
For she dodged, did the miss,
Either vexed or afraid.
And *he*—poor chap!—well,
My Kodak will tell
What a picture they made!

EDWARD W. BARNARD.

Editorial Comment.

Our Illustration.—"A Bit of Lake George" is the title of our illustration accompanying this number, and is another example of Mr. Alfred Stieglitz's careful and artistic work.

It was taken very late in the afternoon from his grounds, "*Oaklawn*," situated on the picturesque Tea Island Bay, about a mile from the head of the lake. The exposure was one and a half minutes on a very slow orthochromatic plate, without the use of a color-screen. Development was by ferrous oxalate, and the lens used was the Steinheil Aplanat, 19 inches focus, stop of f-64. It should be mentioned that Mr. Stieglitz was awarded a gold medal a short time ago in a special competition under the auspices of the London *Amateur Photographer*. He is getting to be the leading medal-taker in America, a position which many should strive for.

The Mixed Eiko and Para Developer.—During the past few months we have given this developer further trial on bromide paper, and find it to give deeper blacks than if either is used singly. The strength used was:

Water, - - - - - - - - -	1 ounce.
Sodium sulphite, - - - - - - -	10 grains.
Eikonogen, - - - - - - - -	4 grains.
Para-amidophenol, - - - - - - -	2 grains.

It was not necessary to use any carbonate of potash unless there was a short exposure.

In one lot of solution it was found four prints could be developed in succession before there would be any falling off in color or density. It is probable more eikonogen would prolong the density-giving power of the developer. It is a practical, working, simple developer, and will make up for the deficiency in density which some think eikonogen fails to give.

In place of para-amidophenol, ten minims of rodinal may be added with good effect. Rodinal acts as an accelerator and hastens the development materially, while it is also a preventive of chemical fog. We find a purely "rodinal" developer—water two ounces, rodinal 20 minims—works very satisfactorily on instantaneously exposed plates; from 10 to 20 minims more may be added after two plates have been developed, and can be repeated if it is desired to retain a uniform developing speed.

Plates fogging in either of the developers may be considered to have been made a long time or were light-struck.

The Amidol Developer.—This new agent is said to be closely related to eikonogen and the para-amidophenol developer, but different in regard to alkalies. None can be used with it. It contains within itself all the developing force. We shall experiment with it as early as convenient and report results. From experiments made by the editor of *Photography* it is ascertained that a solution may be stored in an open graduate for several days without changing in color or losing its developing power. It is likely to answer admirably for lantern-slides and process work. The most approved formula, taken from a report in the *Photographic News* by G. L. Addenbroke, is as follows:

"Amidol makes a very interesting developer, and one which possesses decidedly original qualities; it is very soluble in water, and as strong a solution as 10 per cent. can easily be made, which is a very important advantage. I have tried it in various ways as a developer, but on the whole find the formula recommended the most convenient, viz.:

Water, - - - - - -	1,000 parts.
Sodium sulphite crystals, - - -	200 "
Amidol, - - - - - -	20 "

"This forms a concentrated developer which, diluted with three or four parts of water, works well with different kinds of plates. Its action is decidedly rapid, and to restrain this and keep the shadows perfectly clear, the addition of a little potassium bromide is desirable, the proportions naturally varying with the character of the plate; from three to four drops, however, of a 10 per cent. solution to the ounce of developer is a fair average with a normal exposure. Full printing density is attained in from three to four minutes. With thinly coated plates it is advisable to wait until the action of the developer is strongly apparent at the back of the plate; but if the film is a thick one, the image need only just appear through. After fixation the deposit is of a good, black color, inclining to a greenish tinge as the proportion of bromide is increased; the shadows remain quite clear, and the film perfectly free from stains.

"The conclusion I have come to is that amidol is simple and certain in its action, and capable in the hands of an efficient operator of producing the highest class of work; whilst the ease with which it is prepared and used makes it very suitable for amateurs, to whom a single-solution developer, keeping well, offers many advantages. I may say that amidol is an excellent developer for gelatino-bromide prints, giving vigorous images of good color without staining the paper."

The Platinotype Cold Process.—As a quick process this excels in some respects bromide printing. The exposure required is longer but the other manipulations are quicker. If one is in a hurry a print can be made, developed, fixed and dried in ten minutes. Another advantage is there are no sulphur solutions like hypo-sulphite of soda used; hence one is sure of having permanent prints. The paper is supplied ready prepared and is put up in packages of cut sheets enveloped in yellow paper, and this again in waxed paper. The paper will keep, it is claimed, for three or four months. Our experiments with it confirm the opinion expressed by Mr.

A. Stieglitz on another page, as it is a great advance in platinotype printing, and affords an opportunity to all to obtain from negatives the most artistic prints. The oxalate-developing solution may be used repeatedly until exhausted.

Much of the valuable platinum salt is retained in the developer and may be recovered, according to the *Br. Jour. of Photography*, as follows:

"The vessel containing the accumulations of the old developers is heated until the liquid reaches a temperature of about 180° Fahr., a saturated solution of ferrous sulphate in the proportion of one part to four of the oxalate solution being then added to it. Precipitation of a dark substance immediately takes place; this is finely divided metallic platinum. When the precipitate has settled, the supernatant liquid is drawn off, and the precipitate, after being washed, is ready either for conversion into chloroplatinite or for transmission to the refiner. Probably the latter is the preferable plan.

"Of the quantity of platinum salt with which platinotype paper is coated it has been estimated that far from all of it is taken to form the image, so that the wisdom of saving the developing solutions is manifest. The acid, clearing solutions, however, only carry over but an infinitesimal proportion of the platinum salt, so that their preservation for the purposes of recovery would be futile."

Photography at the World's Fair.—We have referred on another page to the petitions sent to Chicago in regard to the photographic privilege at the World's Fair. From three different reliable sources in Chicago we are advised that it is announced unofficially that hand-cameras are to be admitted to the Fair grounds on the payment of a fee of $2, good for one day's photography, and that a special bureau or department of photography is to be established which will issue camera permit tickets. A special photographic laboratory is being built for the work of the exposition, which is to be in charge of the Ways and Means Committee, and it is probable that dark-room facilities will also be provided on the grounds for the use of amateurs for a small fee. When these announcements are officially confirmed we feel certain the thousands of amateurs whom it concerns will greatly rejoice. We should be glad to see the grounds opened to amateurs on the same terms before the exhibition commences. Why not begin with the month of October, 1892, when the dedicatory exercises occur? Very nearly one hundred dollars a day is now lost by excluding the hand-camera. We are further advised that the highest amount bid for the landscape, portrait, architectural and miscellaneous photographic privileges, all combined, was seventy-five thousand dollars. On the small-fee, popular plan there is no reason why double this amount may not be realized. We are glad to see that the prospects are good for general photography at the Fair, and the sooner the fact is officially announced the better for all concerned.

The World's Fair Photographic Privilege Petitions.

AFTER a little over two months' work we succeeded in interesting many societies and others in signing and forwarding petitions as described in the communication, a copy of which we give below:

TO THE WAYS AND MEANS COMMITTEE, WORLD'S COLUMBIAN EXPOSITION,
CHICAGO, ILL.

Gentlemen: Some six months ago, as the then Corresponding Secretary of the Society of Amateur Photographers of New York, I addressed a letter to your honorable body in reference to the prospective rights of amateur photographers at the World's Fair. I also appealed to the Executive Committee of the Exposition to reconsider the adverse opinion expressed by your committee, but, as you may know, both your committee and the Executive Committee held to the decision that only those (probably three or four professional firms) who would pay the highest price for the franchise would be entitled to photograph in the World's Fair grounds. All others, whether amateur or professional photographers, would be excluded. One of the arguments in your favor was that such exclusive rights would bring a greater revenue to the exposition than if such privilege were not sold.

With a view of showing you that there is a popular demand for *general photography* at the fair, and that a probable greater revenue can be derived by permitting its widespread practice at a small fee than by restricting the privilege to a few, I have circulated petitions throughout this country and some foreign countries, urging you to treat the great mass of amateur photographers fairly and in a spirit that will meet the public needs.

One of the commissioners to the National Commission from the great State of New York, who is also an amateur photographer, believes it is wrong to exact from the amateur photographers any fee for the privilege of photographing the public objects and structures in the World's Exposition. Personally, I am also of the same opinion, but I sign the petition as it is, believing that it is better to pay a small fee and secure some enjoyment than to be rigidly excluded.

I would also call your attention to the fact that the public press, reflecting the public sentiment, is unanimous in condemning the former decision of your honorable bodies as to the proposed restriction of the photographic privilege.

I herewith transmit petitions asking you to reconsider the question from forty-eight clubs and societies in the United States and Canada, representing a membership of 3,261; also from eighteen British societies and clubs, representing a membership of 1,281; also from Paul Gers, editor *Journal des Sociétés Photographiques*, *Le Photo-Journal*, *Revue Universelle Illustree*, Paris, France, representing 2,000 French amateurs; also from fifty-six members of the Society of Amateur Photographers of New York, and from photographers not affiliated with any organization; and would ask you to consider the special comments of the several clubs attached thereto.

I shall from time to time take the liberty of sending further petitions. Those sent voice the sentiment and wishes of the organized bodies, and will, I trust, receive your favorable consideration. The general opinion is, that permits good for one day should be granted, to be surrendered on leaving the grounds. I have reports from reliable sources that at the present time amateur photographers, carrying small hand-cameras, are denied admittance to the grounds unless the cameras are left outside. I cannot believe that such a regulation is to be permanent, but hope instead the well-known liberality, business sagacity, and sensitiveness to public demands of the Western man, especially those composing your honorable body, will welcome the amateur photographers to the World's Fair grounds free from unnecessary restrictions.

Yours respectfully,

F. C. BEACH,
Editor American Amateur Photographer.

NEW YORK, August 20, 1892.

There are about sixty societies and clubs in the United States; about four-fifths of them have gladly signed the petition. Among those not heard from are some of the largest organizations; but though one officially declined to take any action in favor of the petition, a large percentage of its members individually joined in the movement by signing a special petition, indicating that the officials were not in touch with the public feeling on the subject. Further petitions have been received up to September 1st from the Oakland Camera Club, representing a membership of 28, and five from individual members of the Society of Amateur Photographers of New York.

More foreign societies and clubs would have been heard from but for the miscarriage in the mails of many blank petitions. But the bulk and size of the petition sent in was, we hear, quite a surprise to the officials of the Ways and Means Committee, and will without doubt be the means of aiding in opening the Fair grounds to the amateur photographer. When that fact is definitely accomplished no one can deny that, by united effort, the amateur photographers have been successful in making their influence felt.

A CAMERA IN THE WORLD'S FAIR GROUNDS.

In preparing for a recent visit to Chicago, it occurred to me it would be a pleasure to take my camera along for my own amusement, and that, too, I thought, some of the views taken might be useful in newspaper work, at which my efforts are directed. I was not sure a permit was required for photographing purposes, but it seemed the safest plan to inform myself positively, and a letter was therefore sent to the Chief of the Department of Publicity and Promotion requesting permission, if any was required. A prompt reply was received inclosing a permit, which was conditional that I should submit proofs of my work, if I should wish to publish any of it. The trip to Chicago was made soon after receiving the recognition from the Exposition managers. I started for the grounds one very bright, hot day, carrying my 5 x 7 "Premier," a box camera, with me. At the entrance to the grounds the several gatekeepers seemed undecided about recognizing my permit, several saying that all permits had been recalled the night previous. One fellow seemed to know more than his companions, and announced, after looking inside the office, that my name was one of a list, suspended there, of those who were "all right." I felt at home enough to leave an extra plate-holder, which I did not need, at the gate office.

Passing east from the gate, along the south end of the Horticultural building, I made my first stop on the lower end of the wooded island. I saw the huge dome of the Administration building rising up to the south, between the corners of the Electricity and Mining buildings, and decided to take the view to show the relative height of the structures. I stepped off the path into a rough-looking place, which seemed intended to represent a jungle, as I saw I would have a better chance from that point. A voice from behind startled me just as I was about to work my shutter. It was a policeman, and he was disturbed at my having trespassed upon what was really intended as part of the gardens. I went to him immediately, showed my permit, and assured him I would harm nothing in the garden. He seemed doubtful about my permit, saying all of them had been recalled, but I made him understand I was "all right," as I thought I was, because the man at the gate had said so. I made the exposure as I wished to, and started away feeling a trifle annoyed at the interruption. The second plate was used in the rose gardens without remarks from any one, as I was in the same patrolman's territory. As I was leaving the island I also snapped the Horticultural building without interference. Walking along one side of the Transportation building and past the north fronts of the Mining and Electricity buildings, I crossed another bridge and was preparing to get the immense scaffolding of the west central porch of the Manufactures building, when I saw a green-looking policeman approach. He also had some idea about permits having been recalled the night previous, but it was a faint one, and, not relying upon himself to decide the question, he said I would have to go with him to headquarters. Before starting, we went into the great Manufactures building to see the man's superior officer. He was told the circumstances and, with an air of great importance, which at the time I favored heartily, read my permit and told my captor that it was unlimited as to time and, consequently, was "all right." The fellow afterward seemed dissatisfied, as, while I resumed my focusing, he used a telephone, no doubt connecting with headquarters, and reported some questions he came over again and had me answer. I succeeded in making an exposure, and then walked to the southwest corner of the same building and, on a bridge crossing the lagoon, I saw another policeman at the exact place I wanted to get the magnificent Administration building. Advancing with my permit in my hand, I satisfied him the easiest of all by explaining that I had passed the other men and also that I was on the "list." He said I could take as many as I wanted for all he cared, but he had to look out anyway according to orders.

EXECUTIVE AND TRANSPORTATION BUILDINGS.

After getting a fine view of the exterior, I entered the Administration building to climb to its highest point for a panoramic view of the entire grounds. A policeman inside referred again to the permits having been recalled when he looked at mine, but I calmed him as I had the others, thinking all the time that my annoyances were the result of improper training of the officers. I was right, but they lacked the training in a way I did not understand until later.

I commenced a hard climb in the interior of the unfinished building, up a tiresome line of perpendicular ladders supported by the scaffolding, and reached a landing about 150 feet high, from which the view was imposing. As I was about to continue to the higher parts, I encountered another policeman, who had climbed up after me. He asked me if my name was Arnold, and upon my reply in the negative he said Arnold was the only man who could take pictures there. I exhibited my permit and tried my former arguments, but the fellow advised me to go back to the gate or some other official place and get a new permit. Leaving my camera in the building, I went back to the gate and found from another man, that had relieved his associate who declared me "all right," that my permit, as well as all others, had been declared void the night previous on account of the privilege having been sold to one firm.

I understood in a moment the reason for the many objections I had encountered, and immediately prepared to leave the grounds with my outfit and avoid having it taken up by the authorities or having to give up my plates. I had no idea I would get out of the grounds without having something taken away from me. I went to a lower gate from the one I entered, and, to my surprise, I was allowed to pass undisturbed. I walked up the opposite side of the street adjoining the grounds to a refreshment stand across from the first entrance gate, and left my outfit while I went across and got the plate-holder I had left at the gate office. It was a great relief to feel that I was safely out without having anything sacrificed for my experiment of attempting photography upon such dangerous grounds.

While resting in a shady place situated a square or more away from the gates, outside the fence, I noticed the Executive and Transportation buildings would make a nice picture from my position, and, being on the outside of the grounds, with no one to control my actions, I made the exposure at the Suburban station when I was about to return to the city. I also caught the Women's building as it appears from the outside of the fence.

Upon my return home I was successful in the development of the exposed plates, and made a set of prints which appeared to good advantage. I considered I had a right to use the photographs for newspaper publication, as I was under the impression my permit was valid, and ceased work the moment I found out otherwise. I sent the proofs to the Department of Publicity and Promotion, but soon received a letter stating the photographs had failed to receive the approval necessary. There was, however, no restriction placed upon any other use of my plates, and I have since used them in making sets of the views for my friends, getting, no doubt, more enjoyment by thus keeping them in the amateur class.

The accompanying illustration, having been taken outside the enclosure of the grounds, I consider my own, with no restrictions as to what I shall do with it. I therefore present it with great pleasure with this account.

FRED FELIX

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The World's Fair Photographic Privilege.

COMMENTS OF THE PRESS.

THE CAMERA EXCLUDED FROM THE GROUNDS OF THE CHICAGO WORLD'S FAIR.—The amateur photographers throughout the country have been agitated for some time past over the action of the Chicago World's Fair managers in granting the exclusive right to a few professionals, for a consideration, of taking pictures within the Fair grounds, and debarring the amateurs altogether. The various camera clubs have taken the matter in hand, and are making an attempt to get some privileges to which they claim they are entitled.

The professional who has secured the sole right to the privilege of using a camera on the grounds has purchased that privilege at a high figure, so that he may sell souvenir photographs to visitors at the Fair to the exclusion of all others in his line of business. He is right in so far as his claim to debarring other professional photographers from the Fair is concerned, for it would not be just to him, after paying for the privilege, were the managers to allow other photographers to take pictures there for the purpose of vending them.

On this point the amateurs are agreed, but they do claim that they should be allowed, for the benefit of the science of which they are making a study—not for the purposes of revenue, but for pastime and knowledge—to take their cameras into the Fair grounds and take views wherever they please. Such, they claim, will not interfere with the business of the professional, as they are not taking the pictures for selling purposes, and that their object is to get plates which will be different in many respects to the ordinary stereotyped pictures to be sold as souvenirs. The plates they will make will be used in all parts of the country, both for lantern-slide exhibitions and to enhance their photographic collections.

Certainly the question put forward on the other side is, "How will it be known who is the amateur and who the professional?" but that can be easily answered. The various organized camera clubs throughout the country can easily give certificates to those of their members desiring to visit the Fair grounds, and it is certain that the material of which these organizations are composed is not of the kind who will abuse any such privilege extended by the managers of the World's Fair, and the amateurs would be the first to prevent any attempt of a professional to array himself in the amateur's clothing.

Mr. F. C. Beach, of *The American Amateur Photographer*, of New York, a publication devoted to amateur photography, has been the main agitator for granting concessions to the amateur, and through his organ he has enlisted in the cause nearly every camera club in the country, and in his magazine has been published numerous letters from officials of these organizations, encouraging him in his work and making valuable suggestions as to the best means of securing the privileges demanded.

The members of the Hoboken Camera Club are greatly interested in this matter, as in every other thing appertaining to the welfare of amateur photography, and this city will undoubtedly be well represented in the way of amateurs at the World's Fair if they are allowed the use of their cameras on the grounds. If this concession is gained, the Hoboken camera "fiends" will make sufficient slides to be thrown on the canvas in the fall of '93, to give people who have been unable to be present at the exposition an insight as to the greatness of the Fair.

F. Adolphi Muench, the President of the Hoboken Camera Club, is working the matter for all it is worth in connection with other active members of the club, and if all the heads of other clubs take as much interest in pushing matters, there is little doubt that the efforts of Editor Beach in behalf of the American Amateurs will be crowned with success.

The following extracts from a letter written by President Muench to Editor Beach are worthy of more than a passing notice:

"It has occurred to me that in case the Ways and Means Committee should decline to grant the privileges asked, after the numerously signed petitions are received, to request all photographic clubs in the United States to appeal to their respective representatives in Congress to agitate this matter in Washington, and in case this should fail, to bring the matter before the President, who no doubt would recognize the advisability to do something, especially so as we are to go through an active campaign where every vote counts.

"When one stops to consider how many plates and films will be exposed if the amateur is allowed to photograph at the Fair, amounting in the millions (say 100,000 amateurs at 30 plates each—3,000,000); the lantern slides made from the negatives; the benefits derived when these slides make the circuit of the different slide interchanges, where people can really see how great the Fair was, forming thereafter a most interesting memento, as well as showing to others on canvas the many views which they did not have a chance to see and the benefit accruing to the workingman, manufacturer, etc., which will amount to millions of dollars by the enormous consumption of plates and materials; the thousands of new outfits that will be bought, as well as plates, films, slides and other photo paraphernalia, the advisability of permitting general or free photography at the Fair becomes plainly apparent to every one.

"The arguments are many to be advanced to push the scheme through, and I cannot but think some benefits will yet be accorded to the amateur photographer."—*Hoboken* (*N. J.*) *News*, August 13, 1892.

PHOTOGRAPHY AT THE WORLD'S FAIR.—From a circular received, Mr. F. C. Beach, the co-editor of *The American Amateur Photographer*, is endeavoring to secure the support of all foreign societies to a petition to the authorities, asking that an amateur or other photographer may, for a small fee, be allowed to make photographs at the World's Fair. At present this is refused. The endeavor is a laudable one, and I wish Mr. Beach success. Free America appears to be becoming the land of the monopolist.—Editor *Photographic Review of Reviews*, July 15th, 1892.

Correspondence.

THE WORLD'S FAIR PHOTOGRAPHIC PRIVILEGE.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

SIRS—As [you are in correspondence with the Columbian Exhibition in regard to amateur photographers, I wish to make a few suggestions, not that I shall add anything new, but merely to show my interest in the subject. It is not strange that the managers refuse to let any one photograph within the grounds except those to whom they have sold the right, as they look on it the same as they do on any other trade or business. They would not let an amateur sandwich-peddler on the grounds in competition to the regular restaurant without special permit and pay. It would be very hard to draw the line between an amateur with an 8 x 10 or 10 x 12 camera on a tripod and a professional, and of course the man who had paid a large price for an exclusive right to do the work would not look with favor on that kind of an amateur and the work that some of them would probably do; therefore I do not think the amateur can ask the privilege of using these large cameras free.

What I think we can ask for is the right to use a hand-camera not larger than 4 x 5. They would not attract any special attention, they would not take up any room, and they could do but very little of the work that the professionals had paid for an exclusive right to do, and oftentimes these jobs would make a larger one for the professional.

The point to be used as an argument for the hand-camera is that it would be the greatest advertising scheme that could be invented for the exhibition. From every country village there would be a Miss Jones with a kodak and a John Smith with a Hawkeye, who would take from one to three dozen pictures each of the exhibition and its surroundings. Each of these pictures would serve as a text from which they could talk to their friends by the score of what they saw and the adventures they met. Then copies of each picture will be sent to friends far and near, doing more to advertise the exhibition than columns of newspaper advertisements.

The more industrious amateurs will make lantern-slides and give exhibitions at the church, hall or club-room, while some one, the minister, perhaps, will give his experience of the sights and scenes of the Fair. This advertising will all be without cost to the exhibition, and given by those who are known to have no other interest than to tell of what they saw and encourage others to go and see for themselves. The directors may say that they will have all these pictures for sale, but they will not and cannot, for every picture taken has its personal history and shows something just as it was seen by the artist at that moment, and the artist will carry home the impression that he has seen or felt in his own picture, and it cannot be found in any other.

I think a hand-camera is all we can ask for under the circumstances, and I fear it is more than we shall get. I also think that if the right to make pictures at the exhibition was made free to all with whatever sized camera, that it would increase the patronage by the free advertising and by the extra entrance tickets of those who wish to make pictures, to an amount many times larger than what they will receive for the exclusive right from one or more persons.

I should advocate the giving of a daily permit for fifty cents, an amount so small that the camera would be carried every day for the purpose of taking chance shots of the various phases of human nature to be seen.

SPRINGFIELD, MASS., June, 1892.

Yours truly,

C. A. E

MR. F. C. BEACH, 239 Fifth Avenue, New York:

MY DEAR SIR—I notice, in the latest number of the *British Journal of Photography*, a letter from you about an effort that you are making to have the World's Columbian Exposition opened to amateur photographers, and I want to wish you success in your energetic labors. I have been doing all that I can individually. I am convinced that if amateur photographers are excluded from the Fair it will be a misfortune for the great enterprise, and will deny to many thousands who practice the alluring art perhaps the most enduring pleasure to be got from the journey to Chicago in 1893. The Ways and Means Committee is composed of some of our best business men—the sort of men who have made this city and the Exposition what they are—and I hope that, when the subject is properly presented to them, they will come to look at it as we do. I trust that the matter is in good hands here, and I have no doubt that it is. I am, sir,

Very truly yours,

CHICAGO, August 17, 1892. CHAS. H. GOULD.

MR. F. C. BEACH,
Editor AMERICAN AMATEUR PHOTOGRAPHER, *New York:*

DEAR SIR: I have great pleasure in returning the petition signed by our president, Mr. Abel Heywood, Jr., and, as you will see by the inclosed slip, you have our hearty support.

I hope you will succeed in your generous efforts to benefit photography generally and amateurs in particular.

Yours sincerely,
W. H. FARROW,
Honorable Secretary Manchester Photographic Society.

MANCHESTER, ENGLAND, July 22, 1892.

[The slip referred to is a report of the regular meeting of the society, held on Thursday, July 14th, published in the Manchester *City News*, which says:

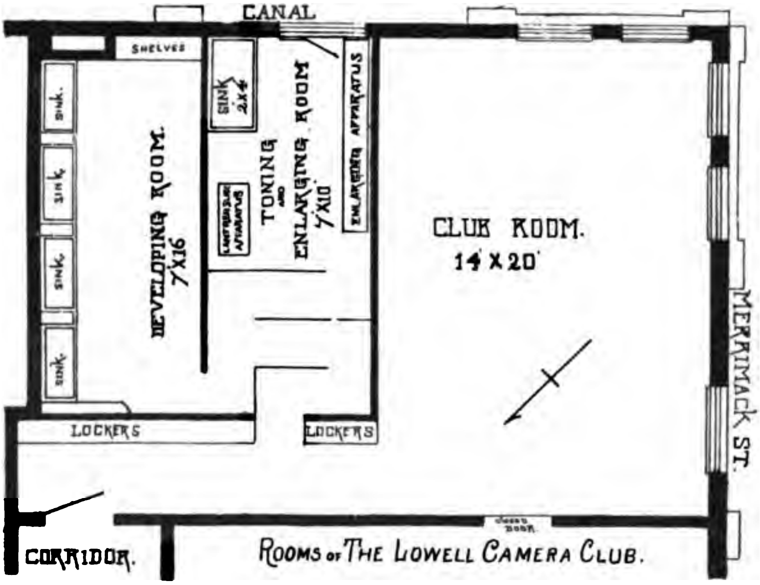
"A letter from Mr. Beach, the well-known American photographer, was read, requesting the Society to indorse a petition asking the committee of the Chicago Exposition to allow any person to photograph there on payment of a small fee, instead of disposing of the privilege to a limited number. Mindful of the results of the arrangement made for photographing the Manchester Jubilee Exhibition, the meeting unanimously resolved to support the petition."]

OUR VISITORS.

During the past few months we have been favored with calls from Mr. H. B. Hosmer, vice-president of the California Camera Club; Mr. Wm. P. Todd, from the same organization, and connected with the new magazine called *The Californian;* Mr. John Fretwell, of Leeds, England; Miss Elizabeth A. Slade; Miss Emilie V. Clarkson; Mr. A. J. Thomas, ex-president of the Hoboken Camera Club; Miss Grace C. Sheldon, Buffalo; Miss Caroline Richmond, Providence; Mr. F. M. Barber, Hartford; Mr. John Tennant, of *Wilson's Magazine;* Mr. H. Snowden Ward, of the *Practical Photographer* (London); W. D. Mathers, of Manchester, England; Mr. Chas. W. Stevens, of the New York Camera Club; Mr. Frank La Manna, president of the Brooklyn Academy of Photography; Mr. Alfred Stieglitz, of the New York Society of Amateur Photographers; Mrs. James Osborne Wright; Mr. Harry S. Fowler, secretary of the Brooklyn Academy of Photography; Mr. E. Burton Holmes, secretary of the Chicago Camera Club; Dr. Charles L. Mitchell, of the Photographic Society of Philadelphia.

Society News.

[Under this head we propose to publish all society matters of scientific or technical value which are of interest to amateurs generally. Our space will not allow the insertion of mere routine matters. Reports of Field-Days, Exhibitions, etc., will be gladly received and inserted, if received previous to the 26th of each month. Secretaries will confer a favor by forwarding early reports of meetings.]



Rooms of The Lowell Camera Club.

Lowell Camera Club.—On August 4th the new club-rooms were opened. In describing them the Lowell *Morning Mail* says: "The new quarters are all that the most enthusiastic in the art of photography could wish; in fact, it is doubtful if the equipments are equaled in excellence and completeness by those of any club in New England. In the first place, the location is delightful. The building itself is as centrally situated as it can well be, being at the junction of all the street-car lines, and the rooms occupy, perhaps, the best portion of the building. They are on the upper floor, in the southern corner, and they command a splendid view. Both Merrimack and East Merrimack streets can be seen from the windows, and the whole of Post-office square spreads out beneath like a panorama.

"But it is the fittings of the rooms themselves that are specially deserving of notice. The dark or developing room is probably the most important feature of the photographer's studio, and that of the Camera Club has been designed and arranged with such care that it may be said to represent the most advanced and scientific ideas known to the profession to-day. In size it measures 7 x 16 feet and is 10 feet high, and the arrangements for excluding daylight are well-nigh perfect. The entrance to it is through a passage which has several zigzag windings, and when all artificial light is shut off the darkness is so intense that one would imagine he could feel it. There are four dark lanterns or developing lights, and to economize space they are set in the wall, the screen in front being so arranged as to throw the light at an angle of about 45 degrees. The lanterns are both light and air proof, the ventilation necessary for burning being got through the wall, and the gas-jet is lighted by electricity. The front has three screens so that the operator can get light of varying power by using one or more of them There are shelves between the lanterns, to be used as receptacles for pans, baths, etc., and there is a sink in front, running the whole width of the room, with water-faucets at different points. The wash-box used for washing the plates after they are developed is placed at the right-hand side of the sink. One of the most marked features of the developing room is the splendid ventilation which has been secured.

"Adjoining the dark room is the enlarging or toning room, 7 feet by 10 in size. Here also is a dark lantern similar to those in the dark room, and there is a gas stove for heating solutions for platinum-printing. On the dark shutters in this room is to be placed a daylight enlarging camera, and on the partition near it will be a shutter on a movable easel. This apparatus will not only be useful for the ordinary work, but will be used for making lantern-slides, which will be made a feature of in the future.

"The third and last room is in front, overlooking Merrimack street, and this is the club-room proper, but it will also be used for printing. It is 14 feet by 20 in size, and 16 feet high, and is fitted up with all the conveniences suggested by the character of the club. A large table in the centre is piled with papers and magazines chiefly devoted to the literature of photography, and a nice library case on one side holds a large collection of books.

"Another feature is a large fixture divided into a number of lockers where members can keep private property, such as chemicals, slides, etc. The burnisher is one of the best things in the market at present. being a new model with many valuable features.

"Taken altogether, the furnishings and equipments are such as to reflect credit on all concerned, and their excellence gives the club an opportunity to do work second to none. The club was organized in 1883; it was reorganized in 1889, and it was incorporated in 1892. It has now forty members and some more are coming, so that it is expected it will number about fifty in a short time. The present officers are: President, Paul Butler; vice-president, W. P. Atwood; secretary, G. A. Nelson; treasurer, A. S. Guild."

NEW HAVEN CAMERA CLUB.—Early in July, at Room 23 in the Insurance building, the club entertained its friends with an exhibition of lantern-slides under charge of Mr. John C. North. The views shown consisted of local and Western scenes.

CLINTON (MASS.) CAMERA CLUB.—The amateur photographers of Clinton, Mass., have formed the Clinton Camera Club, and have elected the following officers: President, H A. Thissell; vice-president, A. E. Wilson; secretary and treasurer, David Dias. The club has a membership of fifteen, and meetings are held monthly.

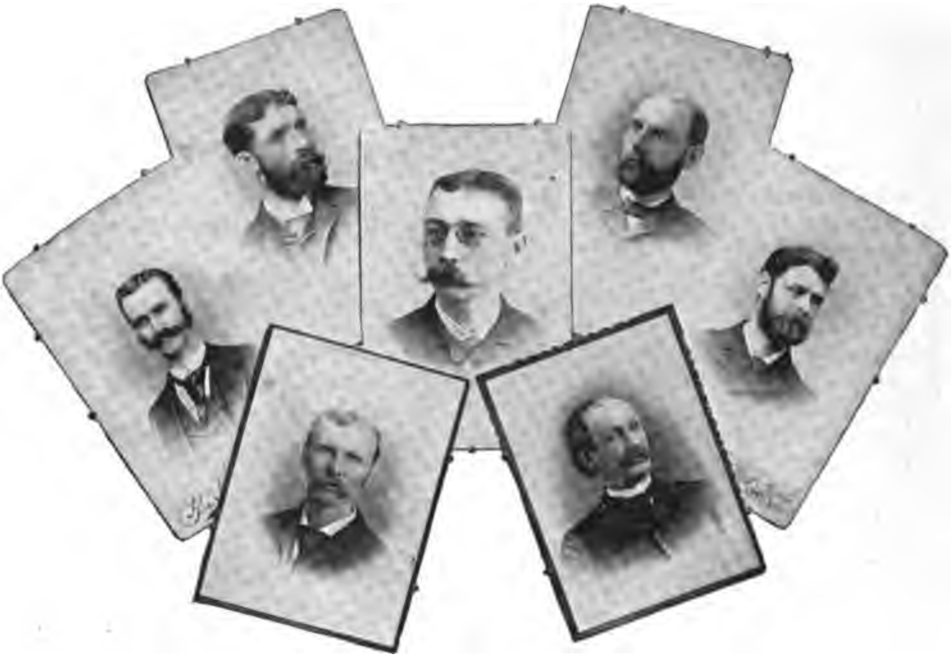
Early in July members of the club had samples of their work framed and hung in the window of the Y. M. C. A. rooms. Among the contributors were H. A. Thissell, C. C. Coulter, Alfred Mackay, Dr. W. O. Johnson, David Dias, Arthur Wilson, Ernest Harris, etc. The pictures were occasionally changed.

WORCESTER CAMERA CLUB.—A meeting of the club was held on July 11th, when several members brought a number of photographs. Among the exhibitors, says the Worcester *Telegram*, were:

"Harry E. Keith, who showed a frame of instantaneous and time exposure views which were tastefully arranged. Albert M. Powell had several similar views, with one or two interiors. Frank L. Wilder showed a number of instantaneous views of the Fourth of July parade at various points, also a number of the more conspicuous features of it. J. J. Allen showed several landscape views. An instantaneous view of his, showing the balloon 'Wanderer' just starting heavenward on its Fourth of July ascension from the common, attracted the attention of all the members. The print was made on aristotype paper and was remarkably clear. It showed nothing but the balloon, its occupants and the clouds just above it. The *Telegram* reporter loomed up conspicuously at the edge of the basket, while Professor Allen, the aëronaut, could be seen clinging to the ropes above and manipulating the valve cords. The picture won much admiration.

"Among others who had specimens for exhibition were Nathaniel Paine, Dr. J. Barton and Albert A. Chaffee.

"There were about thirty members at the meeting, and there is every indication of increased interest in the work of the club. The club appointed a special committee, consisting of Daniel F. Gay, Arthur H. Parker and Harry E. Keith, to make arrangement for an outing to Concord and Lexington on July 23d. The outing was quite a success."



WILL C. EDDY. JOHN F. WADE.
B. D. BROWN. J. H. WHEELER, PRES. G. S. FULLER.
W. H. BENTLY. E. E SWEENEY.

THE MYSTIC CAMERA CLUB, OF MEDFORD, MASS.—The club elects its officers annually, and has been fortunate from the start in securing the services of several very enthusiastic amateur photographers, who have given much time and thought to advance the interests of the club. It has produced some very good work, especially in lantern-slides, notably the illustrated lecture "Paul Revere's Ride," exhibited in the New England Lantern Slide Exchange during the past Winter, it being the first club, we believe, to take up a subject of this kind and calling upon the members generally to contribute slides relating to the subject.

It has a large active membership, steadily increasing, and as only those who practice photography are desired as members, we expect a steady advance in the quality of their work.

MINNEAPOLIS CAMERA CLUB.—The Minneapolis *Journal* of a recent issue thus describes the progress that is being made by this club:

"Over the entrance to the Turnquist block, on Sixth street, is a sign which bears the inscription, 'The Minneapolis Camera Club.' A flight of winding stairs leads one to the club-rooms on the third floor, and here the amateur photographer is in his element. Three spacious rooms en suite are provided, with a large studio, dark room, electric light, and everything possible for the convenience of the photographer. The rooms have only been occupied a short time and, while ready for use, they do not as yet bear the appearance of luxury and tidiness that they will assume as soon as the paint dries. The reception room, which one enters first, is comfortably furnished in oak, having a reading-table adorned with all current photographic serials of the day, also writing materials for the members. A library is soon to be added to this room. From here one steps into a sort of workroom filled with lockers in which members keep the necessary paraphernalia for working. The studio opens off of this room and is large and spacious, with one of the best lights of any in the city. This room will be fitted up with a portrait camera for the use of members, also backgrounds, rustic pieces of furniture; in fact, everything that one would find in a professional gallery. The studio is also to be supplied with a stereopticon, which will be used to illustrate lectures at meetings and also as a means of entertainment. The privileges of the club-rooms are always open to members and their guests, and any member, upon application to the House Committee may be granted the privilege of using the club-rooms for an evening entertainment.

"The number of active members is limited to 50, associates 25, honorary 10. The associate members embrace non-residents, stock dealers, and ladies. There are a few of the former among the members, but as yet none of the latter. Associate members are admitted for half fare, but are not allowed a voice in the politics of the club. The next meeting of the club will occur September 14, when there will be a sort of house-warming, speeches, and a general good time. Considerable red tape and formality have to be gone through before one becomes eligible to membership, but this is only done that the best and most responsible persons, as well as amateur photographers, may be admitted as members. The club is contemplating joining the American Lantern Slide Interchange.

"President, W. M. Tenney; vice-president, William Channing Whitney; secretary, A. L. Eidemiller; treasurer, W. C. Porter.

"The business of the club is transacted by a board of 10 directors, the society being an incorporated body."

THE LEBANON (N. H.) CAMERA CLUB.—On July 26th the following officers were elected: Frank H. Foster, president; John R. Spring, vice-president; C. A. Richardson, secretary and treasurer; George E. Wilder, purchasing agent. The Executive Committee is made up as follows: B. A. Whitermore, F. H. Foster, J. R. Spring, C. A. Richardson and George E. Wilder.

MEETING OF THE AMERICAN PHOTOGRAPHIC CONFERENCE.—At a special meeting of the council of the American Photographic Conference on June 8th, held at the rooms of the Society of Amateur Photographers of New York, the secretary was instructed to ascertain what arrangements could be made with reference to an exhibition of amateur work at the Chicago World's Fair in 1893, and also to see whether it would be feasible to hold the annual meeting of the Conference in the Summer of 1893 at Chicago.

The council having learned that it was the intention of the World's Fair managers to prohibit amateurs from using cameras on the Exposition grounds, passed a resolution, offered by Mr. Paul L. V. Thiery, authorizing the officers and council to sign a special petition, as follows:

Petition to the Ways and Means Committee of the World's Columbian Exposition.

GENTLEMEN: The American Photographic Conference, representing the amateur clubs of America, request that privileges be granted to amateurs for a specified sum to photograph in the Exposition grounds. This having been the custom at the late Paris Exposition, we feel justified in making this appeal. This request is made on behalf of two hundred and fifty thousand amateur photographers.

[Signed] President, Dr. Ely Van de Warker, Syracuse Camera Club; George Bullock, Cincinnati Camera Club; second vice-president, Dr. George L. Parmelee, Camera Club of Hartford, Conn.; secretary, T. J. Burton, Society of Amateur Photographers of New York; treasurer, W. H. Drew, Boston and Lynn camera clubs, and by members of the council.

The resolution was adopted unanimously, and the petition has been sent in.

THE AMERICAN LANTERN SLIDE INTERCHANGE, 361 BROADWAY.—The following letter has been sent out:

NEW YORK, August 24, 1892.

DEAR SIR: The Executive Committee of the American Lantern Slide Interchange being desirous of improving, if possible, the quality of the sets of slides to be contributed by the different clubs during the coming season, now calls upon you to exercise your best efforts in behalf of your association toward getting up a creditable and interesting collection of slides (about one hundred), to be delivered here in New York, express paid, addressed to the manager, Mr. F. C. Beach, 113 West 38th street, not later than November 15th next.

It is advised, in preparing a set of slides, that especial care be used to see that they are, as far as possible, technically perfect, which includes proper matting and labeling.

It is hoped good judgment will be exercised in the choice and selection of subjects, care being taken to introduce as much variety as possible. If the collection is confined to the illustration of two or three topics, special brief descriptive text should accompany it. A model in this particular was the list accompanying the 1891 New Orleans set of slides. Too many clubs neglect to do more than furnish a bare list of slides. All are asked to do better the coming season. For a list of subjects you are referred to a copy of the rules inclosed.

The committee will meet in New York the latter part of November to examine and select the different sets of slides for the season of 1892-93, and it is expected the slides then selected will begin the circuit by the second or third of December.

The number of clubs in the Interchange having increased considerably within the past two years, requires that two clubs each month should show one set of slides. Including the domestic and foreign sets of slides, there have been usually in the circuit ten sets, which should last for a period of ten months; allowance being made for a cessation of the interchange during July and August, the lantern-slide year will thus be extended to about November 1st.

Usually in each year, about October 1st, the committee selects from the sets of slides that have been exhibited, one hundred choice slides as a special set to be sent abroad for exhibition before foreign societies. Three special sets have thus been sent, two in the fall of 1890 and one in the fall of 1891. The 1890 sets will be returned from England this fall, and will be redistributed among the American contributing clubs.

The plan heretofore followed in arranging the circuit is, for instance, to have the "Chicago and St. Louis" set of slides first shown in Chicago, then in the next city east, and so on until it has traveled South and West, and returns home at the end of the season from California to St. Louis. If each club will bear this system in mind it can determine by the number of months, and with a list of the clubs in hand, the position of its own set of slides.

The committee is pleased to announce that arrangements have been made again for a foreign interchange of slides with the Lantern Society of London and with the English journal *Photography* for next season. Possibly another set of slides may be sent from a photographic society in France.

In several of the reports published in the English journals there is much favorable comment on the quality and character of our American sets of slides, which should be a source of encouragement to each participating club, and spur each up to contribute nothing but its very best work.

The following associations now constitute the members of the Interchange: California Camera Club, Oakland Camera Club, St. Louis Camera Club, Joliet Lantern Slide Club, Chicago Lantern Slide Club, Detroit Lantern Club, Buffalo Camera Club, Syracuse Camera Club, Albany Camera Club, Portland Camera Club, Society of Amateur Photographers of New York, Newark Camera Club, Photographic Society of Philadelphia, Pittsburgh Amateur Photographers' Society, Photographic Club of Baltimore City, Cincinnati Camera Club, New Orleans Camera Club.

There are two applicants for membership: The Orange (N. J.) Camera Club and the Ludlow (Ky.) Camera Club. The Schuylkill Camera Club is also likely to apply. The only organization that is in arrears for its *pro rata* share of express charges during the season of 1890–91 is the Pittsburgh Society, which promises a liquidation soon.

On October 1, 1892, each director will be expected to render an account to the manager of the amount expended for expressage from December 1, 1891, to October 1, 1892, for the purpose of having the expressage item equalized among all the clubs.

The committee is gratified to inform the directors that a good balance now in the treasury will enable the manager to pay to distant clubs a portion of the excess over the average of express charges, and thus in measure lighten the charge that will be called for from the clubs who have paid out less than the average.

Respectfully submitted,

F. C. BEACH,
W. H. RAU,
G. HUNTER BARTLETT,
Executive Committee.

SAN DIEGO CAMERA CLUB.—Mr. M. Y. Beach reports that the latter part of August the organization of the San Diego Camera Club was completed. The officers are: President, Dr. Joseph Rodes; vice-president, A. E. Higgins; secretary, E. M. Brickey; treasurer, Charles Welborn. There are twenty charter members. A number of applications for membership await the action of the club. Two dark rooms are equipped with developing apparatus and supplies of chemicals. A cozy reading-room adjoins the workrooms. Everything which an amateur photographer can reasonably ask for is provided at the club-rooms in the way of developing facilities, etc., and apparatus for printing pictures. This youngest of amateur clubs starts with fair promise, and one of its members has already constructed a bellows camera which commends itself to all photographers who have seen it, and a model of this unique, inexpensive picture-box may yet adorn the shelves of the Patent Office at Washington, although the inventor generously allows amateur associates to copy his design.

Books and Exchanges.

SEVENTH ANNUAL REPORT MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY, MANCHESTER, ENGLAND.—A pamphlet of nineteen pages, showing the remarkable prosperity of the society, having a membership of nearly 400, sustaining a quarterly publication called *The Photographic Record*. There is also a complete printed catalogue of the books and publications in the pamphlet.

DIE PRAXIS DER MOMENT PHOTOGRAPHIC AUF DEM GEBIETE KUNSTLERISCHER, UND WISSENSCHAFTLICHER THATIGKEIT. By L. David and Charles Scolik. 12 plates, 449 illustrations, 459 pages, text. Wilhelm Knapp, publisher. Halle a. d. Saale, Germany, 1892.

This publication, printed in German, treats in a very comprehensive manner of the practical workings of instantaneous photography and the results obtained thereby relative to artistic and scientific research. The volume is divided into sixteen chapters, which give a complete description of the present state of the art, and with the help of sixteen plates—reproductions from original photographs—fully illustrates the results obtained by the best apparatus and methods in use. The various apparatus and the practical arrangements necessary for producing good work are amply illustrated and described in an excellent manner, and testify of the author's thorough knowledge of the subject under consideration. The chapters treat of the results obtained by instantaneous photography: "Cameras," "Objectives," "Shutters, "Methods for Measuring Exposures," "Means for Obtaining Correct Exposures, "Finders," "Illumination of Objects," "Production of Negatives," "Methods for Obtaining Series Pictures," "The Stroboscopes, or Instantaneous Fingers"; "Instantaneous Pictures of Various Kinds, including Projectiles, Sound Waves"; "Balloon Photography, Lighting, etc.," "Detective Cameras," "Stereoscopic Apparatus," "Selection of Detective or Hand cameras" Appendix.

We have received an illustrated catalogue from Marion & Co., 22 and 23 Soho Square, London, England. It appears to include about every essential to photographic success in the way of instruments, several of which are exceedingly useful—a shade for the lens, a portable photo-chemical cabinet, a sky-shutter for view-work and their well-known radial hand-camera. The company give notice that they are to send out their dry plates hereafter with an exposure number on each box, to correspond with Hurter & Driffield's actinograph, which system they find an improvement on the usual sensitometer method. They have factories in London and Paris.

Also there comes to our table from Wilhelm Knapp, Halle, Germany, an elaborate and at the same time small volume, neatly bound, entitled, "Anleitung zur Photographie," a veritable storehouse of photographic knowledge. It has a fine photogravure, a number of cuts illustrating various instruments and methods of using them and a number of carefully compiled formulas. Our thanks are due to our foreign friends for keeping us so well informed as to their ways of working.

SOUVENIR OF THE PHOTOGRAPHIC EXHIBITION OF THE MANHATTAN CHAPTER OF THE AGASSIZ ASSOCIATION.—To each visitor of the exhibition was presented a neatly arranged catalogue, which was adorned with four half-tone pictures. Two were by Mr. Herman Bucher, Jr., and were entitled "A Relic of Olden Times" and "Summer Afternoon." The latter was rather hard, and not a good representation of the process. "The Bronx—Midwinter," by Mr. Edward B. Miller, was very good, and the fourth illustration, also by Mr. Miller, was a very good portrait study of a baby, entitled "Marian."

Editorial Table.

K. AND W. PRINTING-OUT PAPER.—We alluded in a former number to the Contact Bromide Paper supplied by Marks & Dennis, of Chicago, Ill. They have now placed on the market an improved Collodio Chloride Paper, which appears to be very easily worked, and does not curl, because the back of the paper is coated with a special preparation to prevent such an annoyance. The detail obtained on this paper is quite remarkable, the print appearing as brilliant as a lantern-slide. The paper is readily toned either by the single or combined toning and fixing bath.

THE IOTA SPECIALTIES.—We have been informed that the success of these specialties has been so marked that the manufacturers, Geo. H. Chase & Co., Newport, R. I., have been obliged to greatly enlarge their manufacturing facilities. They make a special celluloid film suitable for transparencies to hang in the window and lantern-slide plates for printing-out in a printing frame. Slides made in this way are remarkably clear in the high lights, and can be toned to almost any color. The paper which they supply is also very easily worked, and possesses a high finish.

COLD PROCESS PLATINOTYPE PAPER.—We have received from Messrs. E. W. Newcomb & Co., of this city, a package of the new Cold Process Platinotype Paper, made after Mr. Willis' new process, and it bids fair to be particularly adapted to the wants of the amateur, since it is said to keep better and to print as quickly as the old-style paper; samples that we have tried are certainly very good. The paper prints behind a negative of ordinary density in about four minutes in sunlight, the image being slightly discerned on the surface. It is then put into a tray, and is immediately developed out by the application of a cold neutral solution of oxalate of potash, which may be used over and over again. The solution is kept on for about a minute and a half to two minutes. The print is then cleared by immersing in the dilute solution of muriatic acid and water. It is then washed slightly in water, when it is ready for mounting. The process is well adapted for large work, and also for negatives having much contrast. Simple directions accompany each package. The oxalate solution is also supplied, ready for use. The same firm also supply a prepared Eiko-Hydro-Lithium Developer, very simple to work and certain in its results.

READY SENSITIZED PAPER.—Notwithstanding the numerous ready sensitized papers, there are many photographers who still prefer to use the regular albumen silver paper, especially in warm weather, since the use of the alum bath is unnecessary. To the amateur who has no time to sensitize his own albumen paper, the Ready Sensitized Paper supplied by Mr. John Haworth, 641 Arch street, Philadelphia, is an excellent substitute. It keeps well, prints quickly and tones easily. Mr. Haworth has had a long experience in manufacturing this paper and many other reliable photographic specialties.

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MISS BARNES' TOUR THROUGH ENGLAND.—The latter part of August Miss C. W. Barnes left Scotland and made photographic tours in the northern part of England, through the English Lakes, then to Birmingham, where, on Tuesday, August 23d, she was tendered a special excursion and lantern exhibition by the Birmingham Photographic Society. On August 25th she spoke before the society on "American Work and Workers." She afterwards photographed in Bolton Abbey, Durham, York, and Fountains' Abbey and secured several views in Derbyshire. She lectures before the London and Provincial Societies, and the Photographic Club on September 22d and 28th, and plans to start for New York about the middle of October. She reports having excellent weather most of the time.

OUR LETTER BOX.

C. E. S., an amateur, sends five photographs, mostly 4x5, and says they are taken out of his collection and wishes us to criticise them. He wishes to know the bad and good points artistically and technically. Most of the work is made with a Gray lens. *Answer.*—No. 1. A plain silver print; is very good; trifle weak in detail on the left end, in the grass, though that might be due to a shadow. No. 2. Technically perfect; boys in front trifle stiff; they should have been looking at each other and in the act of going straight down the road instead of crossing it. No. 3. Somewhat undertimed; so suppose a full aperture of lens was used, which is advisable for portraits in woods. Should have had both figures seated looking at each other, engaged in conversation or in picking over leaves that had been thrown in her lap. The boy's face is a trifle too dark. No. 4. Very good in every way. Would bear having the foreground cut off an inch. No. 5. An excellent view of the locality it is intended to represent. Technically good, though the trees on the extreme ends are not sharp, owing possibly to a defect in the lens, but the defect is not detrimental. Artistically, the picture would be improved by cutting off the right end half an inch to the left of the lamp-post, and half an inch off of the left end. The lamp-post and the old mill to the right distract the attention.

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THE COAST OF MAINE AS A FIELD FOR PHOTOGRAPHIC OUTINGS.

A correspondent describes the opportunities for outings in that vicinity as follows: There is no city on the face of the globe where, within a radius of ten miles, you can get such a variety of beautiful scenery as in the vicinity of Portland. The steamers going to the various islands run at all hours, and at low rates. One trip which is particularly interesting is by the Harpswell Steamboat Company, which gives a sail of twenty-two miles among the beautiful islands of Casco Bay and finally lands you at that gem of an isle, made famous by Mrs. Stowe, Orr's Island.

There are many beautiful spots in the region of Harpswell, and the "subjects" are easily worked if you are so disposed, as they all like to be "tooken."

The trip to Orr's Island, which I enjoy, is as follows: The boat starts at 2 P. M., Saturday, and after several landings and a twenty-two-mile sail, reaches Orr's Island at 3:45 P. M., and then we go ashore. The boat returns to the city. One has all day Sunday and till Monday at 6 A. M., or by rowing across the sound, about one-half mile, on Sunday afternoon, and taking the 4 P. M. boat, reach the city at 6 P. M.

Teams can be hired on Orr's Island which will take you to the bridge, or "Gurnet," as it is called, where some fine views can be obtained. It is a great fishing centre, and the old huts and fishermen, as well as the rocky shores and caves, are perfect paradises for the camerist.

Bailey's Island is about a five minutes' row from Orr's, and there are some beautiful little caves on it; otherwise it is rather barren.

Harpswell offers many beautiful things to get, also the islands of Great Chebeague, and, nearer the city, Long Island. Some years ago I did some sailing among these islands, and know them well.

The cape shore offers many beautiful places and views. It is reached by a ferry-boat and stage, running every thirty minutes in Summer, and fifty cents carries you ten miles out to the two lights, or Cape Lights, as they are called. Here the surf is grand at any time.

Should a person desire to take an inland trip he can reach some beautiful scenery within twenty miles, at a cost of (say) fifty cents each way, or by going to the White Mountains, at an additional cost, realize his fondest expectations.

"*Index Rerum Photographic*," *by Dr. John H. Janeway, U. S. A., continued from page 382, vol. iv.*

level, may be pointed at it, and the enlarged image taken as an ordinary picture. A very simple and inexpensive enlarging camera, for enlarging on bromide paper, consists of two elongated boxes, one of which slides snugly partially over the other. The inside box, for a 5 x 8 negative or smaller, is 13½ inches long, 8½ wide and 6¾ deep, of light, well-dried stuff, ⅜ inch thick when dressed. The outside box is 8½ inches long, 9½ wide and 9½ deep. One end of the inside box is fastened to a frame, which, in turn, is fastened over the uncovered pane in the window, or to a hole in the wall of the dark room. Close to this frame, on the top, is a door which lifts up, 3⅔ inches wide, disclosing two grooves in the box. These grooves are 3⅓ inches apart. The one nearest the window is to hold the ground-glass (preferably ground on both sides), and the other the negative to be enlarged. The outside box is closed at one end by a board slightly thicker than the sides of the box, in the exact centre of which there is a sliding lens-board working horizontally. By either drawing out or pressing in of the outside box over the inner one, the proper focus can be obtained. The inside of both these boxes and sliding lens-board must be painted dead black. It may be well to state here that it is sometimes difficult to obtain a sharp outline of the enlarged picture upon the easel, and even in an enlarging camera. This difficulty vanishes by the use of this simple device: Take a useless negative not too dense, and with a sharp knife cut the film about two-thirds across with three strokes, forming an exaggerated Z, or parts of two triangles. Cut down to the glass and leave no ragged edges in the cut. Insert this cut negative in the camera or box, and focus for sharpness. Any lens will do for enlarging by, but probably the best for the purpose is the one with which the negative was taken. A stop is not necessary unless it is desirable to improve the marginal definition, in which case the largest possible should be used. Be careful to place the negative film side inwards, so as to present the picture in the correct position on the paper. Fine focusing is done with the camera screw, if possible. The farther the sensitive surface is from the lens the larger the image, and *vice versa*. The distance approximate between the lens and the sensitive surface is found by adding one to the number of times the negative is to be enlarged, and this sum multiplied by the focal length of the lens. And to find the distance between the lens and negative, divide the number of times of enlargement, plus one, by the number of times of enlargement, and multiply by focus of lens. Tables are given to show at a glance the distances required in enlarging and reduction

ENLARGING BY ARTIFICIAL LIGHT—With a magic lantern, the negative is inserted in the slit provided for the insertion of the slides, upside down and the film side towards the lens, and after obtaining the relative distances by means of the tables, or by moving the lantern backwards or forwards till the desired size is obtained, sharp focusing can be done by aid of the screw in the usual manner; but as the usual size lanterns have condensers of but 3 or 3½ inches diameter, it is plain that only a portion of a negative can be enlarged that is over regulation lantern-slide size. The following size condensers are necessary for usual negatives: Quarter-plate, 5 inches; ½ plate, 8 inches, and whole plate, 10 inches diameter. To determine the size of condenser necessary, measure the diagonal of the plate, which will give the diameter of condenser needed. A strong light from a lamp with an opal globe, placed in a properly prepared box and attached to the enlarging camera, will produce very good results, or a similar box and lamp can be attached to an ordinary camera, provided the bellows is long enough, or a specially made pair of bellows to be attached to the box can be used; in this case the negative is placed film side out in a rebate on the box in front of the light. This bellows need not be plaited. In all these operations it is absolutely necessary that all actinic light be excluded, and attention should be paid to this when using the ordinary magic lantern, for they are never made sufficiently light-tight. Gas and electric light are also used in enlarging. The apparatus required is about the same as given above for lamp-light. Before placing the sensitive film in position after final focusing, which is done on a sheet of plain paper, a temporary cap or a piece of ruby tissue should be placed over the lens. But little can be said in regard to time of exposure, the duration of the same varying so much with the intensity of the light, density of negative, etc.; but it is well to remember that *the exposure varies as the square of the distance between the lens and the film.* It is well, when enlarging on glass, to test with a small plate, and when enlarging on bromide paper, to test a small piece first. When the enlargement of one negative is desired for printing many copies, I think it preferable to make a glass positive first by contact, as it is much more easily handled, and then enlarge that into the required size negative.

ENLARGEMENTS MAY BE VIGNETTED by cutting a vignette "shape" from black cardboard much smaller than those used for the size of the plate being enlarged, and move this "shape" backwards and forwards between the lens and the sensitive surface; the nearer the lens the larger the vignette, and *vice versa.*

ENLARGING EASELS—Several forms for holding the sensitive paper vertically before the lens are to be had from the dealers (see Eastman Easel); but one to answer all purposes can be made from a wide board held perfectly upright by means of braces nailed to it and extending to the floor.

Table 1 is for enlarging and reducing; No. 2, for finding the minimum length of the operating room for a given lens, and No. 3, for determining the length of bellows' extension needed for the camera with the same lens. Table No. 1 is fully explained by the notes at the bottom of the page. In using Table No. 2, suppose the lens used is 24-in. equi focus, and you wish to make a full-length portrait of a man six feet high, in which the image will be six inches high. Look at the left-hand column for lens focus, and in the top line for size of image. At the intersection of these columns we find 312 inches = 26 feet, to be the distance the person must stand from the lens. Table 3, using the same lens and size of image as before, at the intersection of the columns we find twenty-six inches, which represents the distance of the ground-glass from lens centre. And in the same way any lens and size of image may be computed for. (See Tables 1, 2, 3.)

ENGINEERING BY THE CAMERA—The use of the camera is now rapidly being adopted by engineers in surveys of large districts of country, frequent exposures at different points being made and the results plotted upon a large scale. The engineer has found it useful in proving that his work does not injure adjacent property, etc.

ENGRAVING PROCESSES—The same year that Daguerre's discovery was published to the world, Mungo Pouton recorded the first notice of the light-sensitive properties of chromic compounds. For twenty-five years the germs of the collotype processes were just barely hatched out, but to-day, says a writer, the brood of photographic, collotypic and chemiglyphic processes has become so numerous, that only a special committee of some future pantographic convention will ever manage to get their very names disentangled. The latest and perhaps the greatest amidst this fast-increasing legion of accomplished facts is the "half-tone," the "cross-line" or autoglyphic process, the important prerequisite of which is a perfect line-screen.

EOSIDE OF SILVER—Eosin, a derivative of fluorescine and eoside of silver, was described by Bayer as early as 1876. A solution of the potassium salt of fluorescine (eosin), mixed with fifty volumes of a solution of nitrate of silver, forms a dark-red amorphous precipitate of silver eoside, which dissolves gradually when being washed copiously with water. Dried *in vacuo*, the precipitate assumes a lustrous green color. When reduced to powder it is reddish brown, and is soluble in water and alcohol. The following facts regarding the sensitiveness of a film containing eoside of silver were established in 1884. First, eoside of silver by itself is sensitive to the yellowish-green and green rays of the spectrum, the action going, with a very long exposure, beyond light blue. If eoside of silver is compared with pure bromide of silver, as regards the action of the spectrum yellow, the eosin compound shows three times more sensitiveness than the indigo sensitiveness modification of bromide of silver. Second, eoside of silver, in conjunction with bromide of silver, gives considerable sensitiveness to the yellowish-green rays—the sensitiveness of the two conjointly—for these rays are at least sixty times that of a single bromide plate. Third, eoside of silver, with a trace of iodide, gives a sensitiveness for green about four times as great as the sensitiveness for blue.

EOSIN SILVER PLATES—The elimination of the yellow disk is only one of the advantages of these plates. The still greater advantage lies in the high sensitiveness of the eosin silver plate, which, under certain circumstances, can amount to double or three times that of the mother-emulsion. Vogel and Obernetter secured instantaneous pictures with these plates in winter. Another claim is made that this high sensitiveness secures another advantage to the eosin silver plate when it reaches a correct toning. They are also said to be durable; and with these plates the details in the distance, the fine effects of clouds, the gradations of light and shade in the hues of the foliage, are all rendered with a faithfulness approaching that of the steel-engraver when he gives value to black and white to the colors of the artist's canvas. Another application of the eosin of silver comes in the taking of portraits and groups when the subjects are dressed in costumes of bright colors. They are not ordinary gelatine plates bathed in coloring matter like eosin or erythrosin. Both of these are good sensitizers as far as they go, but their range of usefulness is quite limited. The eoside of silver plates is made by specially preparing the emulsion with coloring matter in it, the latter forming an integral part of the sensitive material upon which the image is impressed.

EQUALIZING EXPOSURE ON INTERIORS—To obtain general perfection of detail it is necessary to give full exposure; but there may be objects in the room, such as placques or marble busts in the foreground,

TABLE 1.

TABLE FOR ENLARGEMENT AND REDUCTION.

COMPUTED FOR CENTIMETRES OR INCHES.

Equivalent Focus of the Lens.	DISTANCES OF THE OBJECT AND THE GROUND-GLASS SCREEN FROM THE CENTRE OF THE OBJECTIVE.																								
	1 *t*.	2 *t*.	3 *t*.	4 *t*.	5 *t*.	6 *t*.	7 *t*.	8 *t*.	9 *t*.	10 *t*.	11 *t*.	12 *t*.	13 *t*.	14 *t*.	15 *t*.	16 *t*.	17 *t*.	18 *t*.	19 *t*.	20 *t*.	21 *t*.	22 *t*.	23 *t*.	24 *t*.	25 *t*.
5.	10 10	15 7.5	20 6.7	25 6.2	30 6	35 5.8	40 5.7	45 5.6	50 5.6	55 5.5	60 5.4	65 5.4	70 5.4	75 5.4	80 5.3	85 5.3	90 5.3	95 5.3	100 5.3	105 5.3	110 5.2	115 5.2	120 5.2	125 5.2	130 5.2
6..	12 12	18 9	24 8	30 7.5	36 7.2	42 7	48 6.9	54 6.8	60 6.7	66 6.6	72 6.5	78 6.5	84 6.4	90 6.4	92 6.4	102 6.4	108 6.4	114 6.3	120 6.3	126 6.3	132 6.3	138 6.3	144 6.3	150 6.3	156 6.2
7..	14 14	21 10.5	28 9.3	35 8.8	42 8.4	49 8.2	56 8	63 7.9	70 7.8	77 7.7	84 7.6	91 7.6	98 7.5	105 7.5	112 7.5	119 7.4	126 7.4	133 7.4	140 7.4	147 7.4	154 7.3	161 7.3	168 7.3	175 7.3	182 7.3
8.	16 16	24 12	32 10.7	40 10	48 9.6	56 9.3	64 9.1	72 9	80 8.8	88 8.8	96 8.7	104 8.7	112 8.6	120 8.6	128 8.5	136 8.5	144 8.5	152 8.4	160 8.4	168 8.4	176 8.4	184 8.4	192 8.3	200 8.3	208 8.3
9..	18 18	27 13.5	36 12	45 11.3	54 10.8	63 10.5	72 10 3	81 10.1	90 9.9	99 9.9	108 9.8	117 9.8	126 9.7	135 9.6	144 9.6	153 9.6	162 9.5	171 9.5	180 9.5	189 9.5	198 9.4	207 9.4	216 9 4	225 9.4	234 9.4
10..	20 20	30 15	40 13.3	50 12.5	60 12	70 11.7	80 11.4	90 11.3	100 11.1	110 11	120 10.9	130 10.8	140 10.8	150 10.7	160 10.7	170 10.6	180 10.6	190 10.6	200 10.5	210 10.5	220 10.5	230 10.5	240 10.4	250 10.4	260 10.4
11..	22 22	33 16.5	44 14.7	55 13.8	66 13.2	77 12.8	88 12.6	99 12.4	110 12.2	121 12.1	132 12	143 11.9	154 11.8	165 11.8	176 11.7	187 11.7	198 11.6	209 11.6	220 11.6	231 11.6	242 11.5	253 11.5	264 11.5	275 11.5	286 11.4
12..	24 24	36 18	48 16	60 15	72 14.4	84 14	96 13.7	108 13.5	120 13.3	132 13.2	144 13.1	156 13	168 12.9	180 12.9	192 12.8	204 12.7	216 12.7	228 12.7	240 12.6	252 12.6	264 12.6	276 12.5	288 12.5	300 12.5	312 12.5
13..	26 26	39 19.5	52 17.3	65 16.3	78 15.6	91 15.1	104 14.9	117 14.6	130 14.4	143 14.3	156 14.2	169 14.1	182 14	195 13.9	208 13.9	221 13.8	234 13.8	247 13.7	260 13.7	273 13.7	286 13.6	299 13.6	312 13.6	325 13.5	338 13.5
14..	28 28	42 21	56 18.7	70 17.5	84 16.8	98 16.3	112 16	126 15.8	140 15.6	154 15.4	168 15.3	182 15.2	196 15 1	210 15	224 14.9	238 14.9	252 14.8	266 14.8	280 14.7	294 14.7	308 14.7	322 14.6	336 14.6	350 14.6	364 14.6
15..	30 30	45 22.5	60 20	75 18.8	90 18	105 17.5	120 17.1	135 16.9	150 16.7	165 16.5	180 16.4	195 16.3	210 16.2	225 16.1	240 16	255 15.9	270 15.9	285 15.8	300 15.8	315 15.8	330 15.7	345 15.7	360 15.7	375 15.6	390 15.6

16..	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416
	32	24	21.3	20	19.2	18.7	18.3	18	17.8	17.6	17.5	17.3	17.2	17.1	17.1	16.9	16.9	16.9	16.8	16.8	16.8	16.7	16.7	16.7	16.6
17..	34	51	68	85	102	119	136	153	170	187	204	221	238	255	272	289	306	323	340	357	374	391	408	425	442
	34	25.5	22.7	21.3	20.4	19.8	19.4	19.1	18.9	18.7	18.5	18.4	18.3	18.2	18 1	18.1	18	17.9	17.9	17.9	17.8	17.8	17.7	17.7	17.7
18..	36	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324	342	360	378	396	414	432	450	468
	36	27	24	22.5	21.6	21	20.6	20.3	20	19.8	19.6	19.5	19.4	19.3	19.2	19.1	19.1	19	18.9	18.9	18.8	18.8	18.8	18.8	18.7
19..	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	342	361	380	399	418	437	456	475	494
	38	28.5	25.3	23.8	22.8	22.2	21.7	21.4	21.1	20.9	20.7	20.6	20.5	20.4	20.3	20.2	20.1	20.1	20	20	19.9	19.8	19.8	19.8	19.8
20..	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520
	40	30	26.6	25	24	23.3	22.9	22.5	22.2	22	21.8	21.7	21.5	21.4	21.3	21.3	21.2	21.2	21.1	21	21	20.9	20.9	20.8	20.8
21..	42	63	84	105	126	147	168	189	210	231	252	273	294	315	336	357	378	399	420	441	462	483	504	525	546
	42	31.5	28	26.3	25.2	24.5	24	23.7	23.3	23.1	22.9	22.8	22.6	22.5	22.4	22.3	22.2	22.2	22.1	22.1	22	21.9	21.9	21.9	21.8
22..	44	66	88	110	132	154	176	198	220	242	264	286	308	330	352	374	396	418	440	462	484	506	528	550	572
	44	33	29.3	27.5	26.4	25.7	25.1	24.8	24.4	24.2	24	23.8	23.7	23.6	23.5	23.4	23.2	23.2	23.2	23.1	23	23	23	22.9	22.1
23..	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	414	437	460	483	506	529	552	575	598
	46	34.5	30.7	28.8	27.6	26.7	26.3	25.9	25.6	25.3	25.1	24.9	24.8	24.6	24.5	24.4	24.3	24.3	24.2	24.2	24.1	24	24	24	23.9
24..	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528	552	576	600	624
	48	36	32	30	28.8	28	27.4	27	26.7	26.4	26.2	26	25.8	25.7	25.6	25.5	25.4	25.3	25.3	25.2	25.1	25.1	25	25	25
25..	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650
	50	37.5	33.3	31.3	30	29.2	28.6	28.1	27.8	27.5	27.3	27.1	26.9	26.8	26.7	26.6	26.5	26.4	26.3	26.3	26.2	26.1	26.1	26	26

The use of the above table will best be explained by illustrations :

To enlarge six times with a lens of 15 centimetres (or inches) focal length. We find in the table under 6 *f*. and opposite the figures $\frac{105}{17.5}$, hence the object must be 17.5 and the screen 105 centimetres (or inches) from the centre of the lens.

To reduce eight times with a lens of 19 centimetres (or inches) focus, the object must be 171 and the screen 21.4 centimetres (or inches) from centre of lens.

The table can be formulated thus : Where p = focal length of lens, a = distance from ground-glass to centre of lens, and b = distance from object to centre of lens, then $\frac{1}{a}+\frac{1}{b}=\frac{1}{p}$.

TABLE 2.

DISTANCES IN INCHES FROM OBJECT TO LENS.

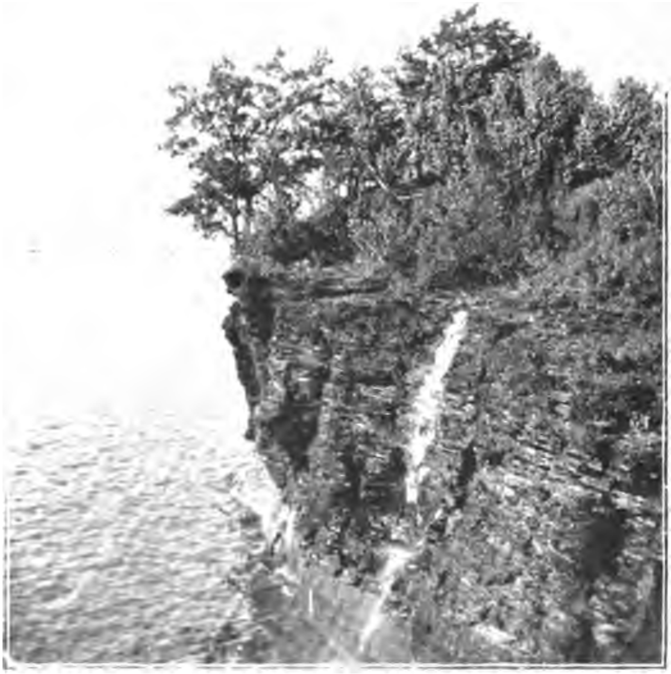
Equivalent Focus of Lens.	3 in. high.	4 in. high.	5 in. high.	6 in. high.	8 in. high.	10 in. high.	12 in. high.	16 in. high.	20 in. high.	24 in. high.	30 in. high.	36 in. high.	48 in. high.	54 in. high.	60 in. high.	72 in. high.
3 inches......	75	57														
4 "	100	76	61⅗	52												
5 "	125	95	77	65	50											
6 "	150	114	92⅖	78	60	49⅕										
8 "	200	152	123⅕	104	80	65 6/10	56									
10 "	250	190	154	130	100	82	70	55								
12 "	300	228	184⅘	156	120	98⅖	84	66	55⅕							
16 "	400	304	246⅖	208	161	131⅕	112	88	72⅗	64	54⅖	48				
20 "	500	380	308	260	200	164	140	110	90⅘	80	68	60	50	46⅔		
24 "	600	456	369⅗	312	240	196⅘	168	132	110⅖	96	81⅗	72	60	56	52⅘	48
30 "	750	540	462	390	300	246	210	165	136⅕	120	102	90	75	70	65	60
36 "	900	684	554⅖	463	360	307⅕	252	198	165⅗	144	122⅖	108	90	84	79⅕	72
48 "	1200	912	739⅕	624	480	393⅕	336	264	220⅘	192	163⅕	144	120	112	105⅗	96
60 "	1500	1080	1024	780	600	492	420	330	272¼	240	204	180	150	140	132	120
72 "	1800	1368	1108⅘	936	720	614⅖	504	396	321⅕	288	244⅘	216	180	168	158⅖	144

TABLE 3.

DISTANCES IN INCHES FROM LENS TO GROUND-GLASS.

Equivalent Focus of Lens.	3 in. high.	4 in. high.	5 in. high.	6 in. high.	8 in. high.	10 in. high.	12 in. high.	16 in. high.	20 in. high.	24 in. high.	30 in. high.	36 in. high.	48 in. high.	54 in. high.	60 in. high.	72 in. high.
3 inches.......	3⅛	3⅙														
4 "	4⅙	4 2/9	4 5/18	4⅓												
5 "	5 5/24	5 5/18	5 25/72	5 5/12	5 5/9											
6 "	6¼	6⅓	6 5/12	6½	6⅔	7⅙										
8 "	8⅓	8 4/9	8 5/9	8⅔	8 8/9	9⅑	9⅓									
10 "	10 5/12	10 5/9	10 25/36	10⅚	11⅑	11 7/18	11½	12 2/9								
12 "	12½	12⅔	12⅚	13	13⅓	13⅗	14	14⅔	15⅓							
16 "	16⅔	16 8/9	17⅑	17⅓	17 7/9	18 8/9	18⅔	19 5/9	20⅓	21⅓	22⅔	24				
20 "	20⅚	21⅑	21 7/18	21⅔	22 8/9	22 7/9	23⅓	24 4/9	25 5/24	26⅔	28⅓	30	33⅓	35		
24 "	25	25⅓	25⅔	26	26⅔	26⅗	28	29⅓	30⅔	32	34	36	40	42	44	48
30 "	31¼	31⅔	32 1/12	32½	33⅓	34⅙	35	36⅔	38⅓	40	42½	45	50	52½	55	60
36 "	37½	38	38½	39	39⅔	40	42	44	46	48	51	54	60	63	66	72
48 "	50	50⅔	51⅓	52	53⅛	54⅔	56	58⅔	61⅓	64	68	72	80	84	88	96
60 "	62½	63⅓	64⅙	65	66⅔	68⅕	70	73⅓	77⅔	80	85	90	100	105	110	120
72 "	75	76	77	78	79⅛	80	84	88	92	96	102	108	120	126	132	144

(To be continued.)



By George E. Blackham, M. D.

THE NORTHWESTERN HEADLAND.

Dunkirk's Picturesque Park.

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Dunkirk's Picturesque Park.

BY GEORGE E. BLACKHAM, M. D.

WHEN I read in the photographic journals accounts of trips with the camera through various picturesque regions and see the beautiful views brought back by the favored ones who are privileged to take such trips, I am, at times, almost persuaded to break the tenth commandment and covet my neighbor's leisure, for I am a busy man, to whom a holiday is a rarity, whose photography must be done, like Prince Hal's repentance, "at odd times as I have leisure," and whose excursions with the camera must, as a rule, be confined within the limits of an afternoon's drive. This condition of affairs has one compensating effect—it makes one seek and find the beautiful in one's immediate surroundings, which might be overlooked if one were at liberty to seek more distant scenes in search of the picturesque.

The city of Dunkirk, N. Y., was originally laid out by a syndicate of capitalists, who expected it to be a great metropolis. It is beautifully situated on a nearly semicircular bay, whose curving shore-line terminates, on the east and on the west, in two bold headlands, whose rocky bluffs rise, almost perpendicularly, some thirty feet above the waves which lap their feet. The western headland is known as "Point Gratiot," and bears upon its extreme end a fine lighthouse, belonging to the United States, and equipped with a large Fresnel lantern of the second class. On this headland is a reservation of about fifty acres, set apart by the syndicate, and donated to the municipality of Dunkirk, in perpetuity, for a public park or pleasure ground. The deed of gift is hampered with some restrictions, which virtually forbid the improvement of this park, so that it remains to-day, with the exception of a roadway or drive around its margin, almost as wild as in the time when "the woods were full of catamounts and Indians red as deer," and it is to this one bit of nature, undefiled by art, that I often resort for snaps and time exposures. And it is wonderful how inexhaustible a variety of views can be found in this little fifty-acre lot; how every change of season, and even of time of day, reveals new beauties.

POINT GRATIOT AND LIGHTHOUSE.

In starting for "the Point," I generally walk directly down to the shore, and thence westerly along the sandy beach. The view from this point is fine, though marred by an ugly row of piles erected as an artificial defense against the encroachment of the lake, which, urged thereto by what the late Mr. Longfellow poetically described as "The Northwest wind Kewaydin," has been trespassing upon the shore-line till Front street has here become Water street.

From this beach we obtain a view of the Point and lighthouse, with the breakers rolling in after a storm. Coming closer, we get a better view of the lighthouse and keeper's residence as seen from the southwest. The buildings are substantially and even handsomely constructed of cut stone. Another striking feature is the northwestern extremity of the Point, as seen in the frontispiece, which displays the peculiar laminated structure of the clay slate of which the bulk of the headland is composed.

The winding driveway known as the West Path is a very lovely drive as it winds in and out through the forest, occasionally approaching so near the edge of the bluff, with which it runs approximately parallel, that glimpses of the lake can be seen here and there through the boughs, and again turning more deeply into the heart of the woods. This picture is the only "time exposure;" all the other illustrations are "snap shots."

The view where the South Drive turns northward to become the West Drive is a shutter exposure, and though it lacks the detail of the West

Drive picture, it gains an element of human interest in the figures, whose movement would have spoiled a time exposure.

LIGHTHOUSE AND KEEPER'S RESIDENCE.

There are many rocky nooks on the west shore of the Point. The waves roll in and dash themselves into spray against the perpendicular face of the cliff, and, as the lake is very wide, the opposite shore being below the horizon, there is something of the grandeur of an ocean that attracts one.

WEST PATH DRIVE.

In the view of the long beach at the southern end of the park the shore slopes gradually up from the water's edge and is covered with that mixture of fine white sand-rounded stones of all sizes that, I believe, our British friends know as "shingle." This beach affords safe and delightful bathing—not yet appreciated as it will be in the near future, when our citizens awake to the full beauty and value of their free pleasure ground.

SOUTH DRIVE.

So we have taken a Summer afternoon's ramble around Point Gratiot, or, as it is better known in Dunkirk, "the Point;" it is for us *the* Point *par excellence.*

In Winter, when the ice is piled in picturesque heaps along the shore, and the frozen surface of the lake stretches out in arctic whiteness to meet the dull-gray sky, it presents a new and entirely different set of attractions to the photographer; and even in Summer there are tempting groups of picnickers with their hammocks swinging between the trees, and sometimes, not always, occupied by lonely novel readers, their horses tethered to saplings and their lunches spread upon the grass in the shade of the old, old trees that have looked down upon Indians, wigwams and campfires. But while one might easily gather illustrations for every chapter of a novel, even the hand-camera fiend has, sometimes, a conscience, and I feel that I have no right to spread these scenes from little private dramas before a curious but not always sympathetic public. It is enough if I have succeeded in showing that the amateur photographer need not always go far afield for subjects of beauty as well as of interest, and that the "snap shot" has its legitimate place beside the time exposure in the field of picturesque photography, and that to catch the foamy crest of the breaker as it flies is as truly artistic as to bring out every detail of leaf and twig, of light and shade, with a slow plate, small stop and long exposure.

SOUTH BEACH.

NOTE.—The pictures illustrating this article were taken with a Gundlach 4 x 5 rapid rectigraphic lens in a Hawkeye camera on Eagle orthochromatic plates, and developed with eikonogen and hydroquinone.

American Work and Workers.*

BY CATHARINE WEED BARNES.

IN speaking on a similar subject before the recent Edinburgh convention, I could only venture on a very general treatment of it, so that when your kind invitation to address you was received I decided to speak further on what camera-workers are doing in the United States. We draw the lines quite as sharply as in Europe, and have as various species of the genus "crank;" but, after all, little really progressive work is ever accomplished in the world without the workers being looked upon as mentally unbalanced, to state it mildly, by those not possessed of a like enthusiasm. The devotees of the camera must bear their share of this experience, for, in spite of all proof to the contrary, the uninitiated are still unwilling to believe that the results of photography are not due to luck or, at best, a cleverly managed trick. We can well afford to smile at this view, however, realizing, as every genuine worker does, the higher position it is constantly assuming among the world's actively beneficent forces. With us, as more than once stated, the camera is too often considered only as a means to kill time, and the fact is then lost sight of that the so-called snap-shotters possess in their ever-ready instrument a wonderful though too-often abused power. But they should not claim for it perfect equality with tripod work. My own preference for the latter is mainly that, as more care is usually given to it, the results are better than hand-work; but it seems also as if the use of the tripod admitted of greater latitude in composition, to say nothing of subsequent treatment of the negative (which, when well done, is perfectly legitimate from an artistic standpoint), and—I say it advisedly—the greater choice as to selection of subject it places in the worker's hands. This is without detracting from the use of hand-cameras, which form a department of their own, covering an important field, and which should not necessarily conflict with tripod work. In the hands of any one who has gained large experience with the tripod, the hand-camera is a valuable power, but with us the latter is usually considered as being easier to manage than the former, is therefore preferred by beginners, and its results cannot justly be compared with stand-exposures.

There is a very amusing amount of ignorance in the land on the subject of shutter-exposures, and the idea seems prevalent that instantaneous work (I dislike the term) is the result of some occult power residing in and solely due to the instrument, having nothing whatever to do with the operator. I was asked lately, on the shore of Loch Katrine, where my 8 x 10 tripod camera was being used: "Does your camera take instantaneous pictures?" "That depends on how you use it," was my reply, which seemed to puzzle my interlocutor. With us, as well as here, the camera army is divided into what might be termed "tripods" and "anti-tripods;" but we seldom use one to the exclusion of the other, except among those who do little, if any, really serious work. As long as the average user of a camera is satisfied with playing at photography, he will never consider it is worthy special respect. It should be stated in strict justice that, as a whole, American clubs offer finer working facilities than those of any other country, and are imbued with a progressive spirit which readily embraces every new improvement. Americans are — and I claim it without undue self-praise — not only able, but willing to learn where they make up their minds the game is worth the candle, and a really good idea is certain sooner or later to find general support. We do not hold on to any method or opinion because of proper respect for age, or welcome it because it is young.

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* Read before the Birmingham Photographic Society, August, 1892.

One point which to my knowledge has never been considered is that camerists have widely differing gifts in the photographic field. Some do best in the studio, some with architectural subjects, such as interiors, and others with hand-cameras. Very few can or should undertake to do all these with hope of equal success. I think one fault with us is that we are apt to attempt this all but impossible task.

Let me emphasize one point in favor of American methods, or, rather, instruments, which is to some extent being introduced in England—the question of lighter plate-holders. Englishmen claim that with them bulk is as great a consideration as weight, but to me the point does not seem to be well taken. Our holders may not be as ornamental in appearance as the smoothly polished ones so general here, but they serve the purpose of keeping out light just as well, and the slides are not nearly so inconvenient as the permanent ones which project beyond the camera, and at any moment are liable to cause vibration or to be broken off by a sudden movement of the operator. I must also indorse having the word "exposed" printed on one side of the slide, which, if the operator takes care to replace correctly, positively prevents double exposure. Their use, like most of the other mechanical appliances, requires a certain amount of brains, otherwise common sense. The tripod I am now using, and have for several years, is easily and quickly adjusted, and packs into a small compass, as does the camera, which closes in on itself, thus protecting the lens if a wide-angle one, and the hinged ground-glass is discarded in favor of one which permits being held back so as to let the plate-holder take its place, and when the holder is withdrawn the glass slips back into position. The tendency is growing to have as few projecting screws or other parts as possible, and those recently made are particularly noticeable in this respect. Opinions differ as to the advantages of front or back focus, being slightly in favor of the former, except in the studio and with enlarging or reducing work. Few, if any, of our cameras are made to have the tripod top permanent in the instrument, but it does save room, and the idea is therefore good. We are in serious danger of making our instruments, especially the cheaper grades, altogether too light; but the demand is for portability combined with cheapness, and this leads to an enormous sale of small-size instruments. I have one camera in my large collection which cost hardly twelve dollars—camera, tripod, plate-holder, lens, and carrying case complete—and it does very tolerable work. For some inscrutable reason the small prints in our exhibitions are called the English size, though I noticed in the various excursions at Edinburgh very few even whole-plate cameras. With you, as with us, the reason is usually given that enlargements are always available; but my preference is always for direct prints.

It would seem to be a fitting matter for international arrangement—the coming to some agreement for uniform sizes of plates. Our favorite size, notably for hand-cameras, is 4 x 5; 5 x 7 has superseded 5 x 8 as giving a better proportioned picture, and from thence we go through 8 x 10, 11 x 14, up to as high as 18 x 22, but even the most ambitious seldom venture beyond 8 x 10. Before we made such excellent cameras we were dependent on foreign makers, and those of us who were not natural mathematicians were often annoyed by what we considered inconvenient numbers—those with fractional additions. The reason given us for retaining these latter has been that the glass thus cuts to better advantage, but I fail to see why it is not possible in the first place to make the sheet of glass of such dimensions as to cut evenly into any size plates desired. I have found it difficult to get 5 x 7 plates in England, though not 8 x 10.

We are taking great interest in lantern exhibitions, and it is an encouraging sign of comradeship that so many sets are being exchanged between English and American workers. If each, however, will insist on retaining a different size plate, the carriers, at least, should be international, so as to hold either size conveniently. We are, to some extent, using the arc-light at these exhibitions, as well as for enlarging and making slides, but it is so much more powerful than the oxyhydrogen that the slides should be made with that point understood, or they will show weak on the screen. Our manufacturers make excellent negative and lantern plates, and I have been taken to task more than once this Summer for saying ours are more rapid than the English, often a very questionable advantage; but actual experiment has proved to me that, with two representative makes of lantern plates, I had, under precisely similar circumstances, to give the English three times the exposure of the American to gain the same result. We are giving increasing attention to the nature of the subject in matting and mounting our slides, and the old circular or even uniformly round-cornered mats are now seldom seen. I must mention that in one of the New York societies the slides are thrown from behind on the screen, which is transparent, giving a charming ground-glass effect. One amateur, having a private lantern, projects his slides on a heavy ground-glass, placed between two parlors and framed by curtains. The effect is excellent. With my own oxyhydrogen apparatus I use a heavy linen screen, buttoned on a framework, like an old-fashioned quilting frame set on rollers. This is thoroughly wet and then stretched taut. The light is powerful, and every slide I send out is thus tested before mounting. My mats are all cut from special designs, and sometimes a dozen will be tried on one slide and the same slipped into my lanternoscope for examination before a choice is made. We have what are called test nights in two of the New York societies, when one or more of the Lantern Committee attends to give a final decision before the slide is considered suitable for a general audience ; though the meeting is very informal, and members feel perfectly free to express individual opinions to the pleasure or otherwise of the respective slide-makers. In one society, if desired by any member, the meeting-room is at his or her disposal for an entertainment, and one of the Lantern Committee will attend to manage the slides. Films in place of glass seem to make their way slowly among us in spite of their undeniable merit of lightness, and I can speak feelingly on the subject, considering the quantity of 8 x 10 plates I have to carry home in October.

Films have certain defects which make me, as yet, prefer glass, but demand always creates supply, and I expect to see them eventually almost supersede the latter. One of our leading firms making photogravures urges me to copy all my valuable negatives on celluloid, as a precaution in case of injury to the originals.

The idea is a good one, as experience showed, when one of my 14 x 17 negatives was smashed on its way back to me from the reproducer's through careless packing. He made me a negative, original size, from the small transparency he used, but the qualities of the original would have been far better preserved by the method above mentioned.

Coming to the question of development, there is much divergence among ourselves, and what little developing I have done in England has shown me that this is especially marked when compared with English methods. We are not given to using ten per cent. solutions, as is much done here, for many of our workers are skillful chemists and have a great liking for experimental work both in development and printing, studying the scientific theory as well as practice, some workers having fitted up laboratory attachments to their developing rooms. I must say, though, that it is not always those who have the greatest number of well-filled shelves and shining weights who actually accomplish the best scientific results.

The use of acid sulphite is quite general, and, though in club dark rooms the hypo solution is ordinarily kept in stock, home workers prefer to make it up fresh, graduating its strength as desired. My own custom is to partly fill my fixing dish with water and then put in a handful or more, as judgment dictates, of hypo crystals and a little acid sulphite to keep the bath clear. Even then I do like to dip the negatives or lantern-slides in a bath of saturated alum and sulphuric acid either before or after fixation. When pyro, which is still first with a large majority of our workers, is used with ammonia or soda it has for a long time been my custom, many times suggested to others, to make up solutions of sulphite and carbonate of soda in large quantities by hydrometer measurement instead of weight, the pyro being always made up fresh, one to twelve, and old developer never being kept under any circumstances.

Then, with a little—very little—saturated bromide of potassium, not ammonium, and plenty of water, the operator usually has only himself to blame for failure. It seems a little strange that English workers prefer ammonia to soda as an alkali, and Mr. Bothamley, in his Edinburgh paper, gave a very clear idea of the action of each, which to my mind seemed rather in favor of soda. I was asked in London by a scientific expert which side of photography was my "particular wanity," as Sam Weller would say, and on my describing the advantages of my developing room, was triumphantly told that such was practically acknowledging photography science, not art, a dictum to which I promptly and positively demurred, claiming that each has its own special standing, alike worthy, thereby proving the length and breadth of the photographic field.

We are turning more and more towards mat-surface prints, largely platinum and kindred processes, such as kallitype No. 2, and plain salted paper ; but we make a great number of bromides, especially in sepia tones, which are considered a refreshing change.

The Manhattan paper admits of several tones, according to development, and Iota prints, also made on celluloid as transparencies, are likewise very effective.

These latter processes are quite slow. The paper sent out by the Eastman Company seems to fulfill the promises made for it, and can be utilized for either glossy or mat-surface prints. It is to be hoped that our workers will, after a while, give carbon printing the place it should occupy among us. We admit its beauty, but only a few use it, though an effort is being made now to encourage amateurs to try it. Two or three of our leading manufacturers are making the tissue, but the heat of our summers renders its use mostly confined to the winters, when the light is poor.

We trust that every year we, the two English-speaking nations, will grow into closer accord, and each learn from the other of its best characteristics. There should be only a healthy spirit of rivalry, enough to bring out the latent energies of each nation, and thus continually advance the work in which we are mutually interested. It is growing rapidly among us, constant improvements are being made, new apparatus and methods of work invented, new societies formed, and, besides the regular photographic journals, the daily press gives space to all especially interesting meetings, and our purely literary magazines more and more are utilizing the art-science in their pages for illustration and in the shape of articles. Photography has a great future among us, and he would be indeed a prophet who could reveal it; but we never will make lasting and steady progress without keeping thoroughly informed on the work being done this side of the ocean. We should mutually take part in each other's exhibitions, and can in no better way realize our deficiencies and gain courage from our evidences of progress.

There is plenty of room in the world for good work, and such will surely meet with recognition in the end. We, in common with our English co-workers, should steadily hold that fact in view, and give our best energies to its accomplishment. Thus, and only thus, do we deserve to reap the fruit of our labors in the many-sided harvest of photography.

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Comments on Miss Barnes' Paper.

MISS CATHARINE WEED BARNES, in a paper read before the Birmingham Photographic Society, gives English amateur photographers a good idea of the present position of amateur photography in America. Miss Barnes touched upon several matters which might well receive attention on this side of the "herring pond." In making a comparison between English and American apparatus, she pointed out some of the advantages possessed by the light American plate-holders over the beautifully made but bulky and heavy English double-backs, and having, during the last few years, had more than one camera in constant use fitted with light plate-holders, I feel bound to admit that there is a great deal of truth in the lady's remarks. There is still room for improvement in dark-slides, and particularly in special holders for films. Many amateurs who now use plates would use films if a light and reliable holder could be obtained for them. It should take the form of a solid back, and be capable of holding two films; it should be about half the weight and thickness of an ordinary dark-slide, and the shutters should draw completely out, and close with a properly constructed valve, and finally the film should be held down on all four sides. Such a slide can be obtained in America, but would it not be worth some English manufacturer's while to place a similar slide upon the English market? —*London Amateur Photographer.*

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Lantern-slide making and lantern-slide exhibitions, as Miss Barnes reminds us, have become very popular in America, and the plan which obtains there of having slide-testing nights is one very much to be commended, and which might with advantage be adopted by some of our English societies. As many amateurs are now busily engaged in making slides for the winter, the opportunity is afforded me of having a good growl at the very inferior quality of many of the slides exhibited at society lantern shows. The committees who are responsible for the success of these entertainments should, in mercy to the producers of the bad slides, and to the audiences, have the discretionary power vested in them of rejecting slides which are not up to a certain standard of merit. Unfortunately for lantern-slide making as an art, the general public is not yet capable of discriminating between good and bad work, for frightful specimens of the "soot and whitewash" order frequently come in for the largest share of applause. —*London Amateur Photographer.*

The Photographic Beginner.

BY ALEXANDER BLACK.

I HAVE often been interested by the conduct of the beginner in photography. The beginner, knowing nothing of what photography can't do, or what it is supposed to be unable to do, goes straight for what he wants. He makes the most daring demands upon the camera. As the professional marvels at the audacity of the amateur in general, the experienced amateur often stands aghast at the beginner's thrilling and extraordinary "nerve."

The really surprising and disquieting thing is the result of the beginner's uninformed courage. His negatives, technically at fault as they often are, are often also found to contain remarkable results. In his readiness, for instance, to work the hand-camera at very short range, he sometimes strikes novel, forcible and artistic results. The figure impressions he secures have particularly struck me by their expressiveness. These are often as much fresher, more alive and speaking, than the work of the trained operator, as an artist's free-hand sketch from life is superior to the thing the same artist sometimes goes and finishes up in color at the studio.

Of course, in the long run, training shows as much of an advantage over the absence of training in photography as in any other science or art, and any good qualities that may be found in the haphazard work of a great many beginners do not make it less true that the more knowledge and the more talent mean the more success.

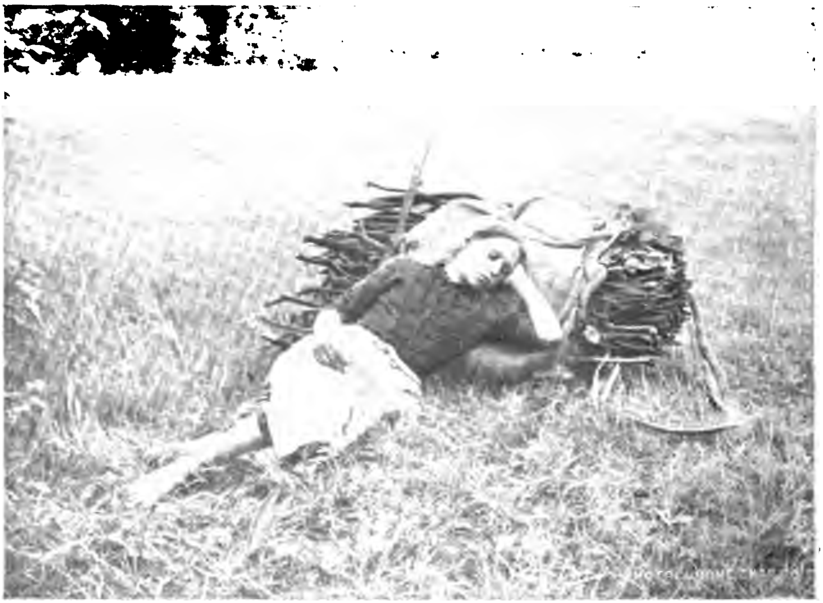
But the question is, Why are these qualities I have spoken of to be found in the work of many novices in photography?

The answer seems to be that the novice gets these results because, unawed by chemical and optical difficulties of which he has yet to learn, the novice goes straight for the thing he wants. He looks at Nature in precisely the way the art teacher is always telling his pupil to look at Nature. He looks at Nature the way an artist looks at Nature when he is using simple, rudimentary material like a pencil or charcoal. He is not worrying about the medium.

Now, photography, in itself essentially a science, will become the medium of artistic product just in proportion as the artistic feeling dominates the scientific elements. The ideal photographic artist is thus the operator whose mastery of the science is so complete that he forgets the science in the art expression for which it is the implement. But, unfortunately, every operator's artistic sense is not so keen, and his scientific dexterity is not so great, that he can, in the progress of his labors, keep on looking at Nature with the simple directness of the beginner. Hundreds of amateurs are drowned in formulas every year. There is a great deal of talk, a quick diminution in the product, a gurgle from the sinking victim, and all is over.

The reader has met amateurs who know lenses from A to Z, and whose information on developers is simply staggering. But they never make any pictures. Such men are often a great service to the science, but the art expressions of photography can, of course, get nothing from them. Even those who wallow in theories of composition and lighting, and what not, are often obscuring that direct, elemental charm of which the beginner, because he is not afraid, and because there is not a library of theories between his eye and the thing he wants, offers so many reminders.

MR. STIEGLITZ'S picture, reproduced below, is quite celebrated among photographers for the unique and graceful attitude of the figure and the softness in lighting. It has secured for him several medals at a number of foreign exhibitions.



By Alfred Stieglitz.

WEARY.

International Photographic Exhibition in Paris.

BY PROF. W. C. PECKHAM.

THE first International Photographic Exhibition ever held in Paris is now open. I asked in one of the largest photographic establishments: "Is the exhibition a fine one?" The answer was: "Yes; every principal dealer in Paris is *exposed* there." So to the exhibition I went. It completely fills one of the large exposition buildings on the Champs de Mars, and is a collection of great interest. It is divided into eight groups —(1) Historical, (2) Scientific, (3) Artistic—Amateurs, (4) Artistic —Professionals, (5) Industrial, (6) Chemical, (7) Apparatus, (8) Related Industries. The exhibition is under the patronage of the Ministers of various departments of the French Government and the French Academy of Photography. With these are associated eminent French and European scientists.

The Historical exhibit is not large, but very valuable. One looks with awe upon the first apparatus and first pictures upon plates made by Daguerre, when he reflects upon the outcome from these beginnings. There are shown, dated 1845, three plates about 6x8, and two plates about 6x20, views of Paris in good condition to-day. The first objective of combined glasses made in 1839, the year in which Daguerre made public his process, is in the same case.

The second group, Scientific Photography, would be more effective if it had been all presented in one room. There are many very fine microphotographs of diatoms, etc., both slides and prints. The exhibit of the Pasteur Institute, the work of Dr. Roux, is especially to be noted. There are exhibits of astronomical photography by the observatory of Meudon, the work of M. Janssen, who is the President of the Society of Photography, and by the National Observatory of Paris, the work of the brothers Henry, of the very highest character. In this group are found the views of the Observatory on Mt. Blanc, erected last year, with its equipment for scientific work, in which, of course, photography plays an important part.

There are two foreign exhibits—one from Russia, the other from the Royal Observatory of Prague, in which are shown the remarkable enlargements by Dr. Wenck of the photographs of lunar mountains, the negatives for which were made at the Lick Observatory.

But the highest interest in this division centres in the exhibit of the College of the Sorbonne, Paris, of the photographs in colors by Professor Lippmann. Some of these have reached America, but the collection here is his best work. It is considered the feature of the exhibition. Everyone stops at the small case in the centre of the room, in which is a small spectroscope, a very ordinary camera, a glass cell and a bottle of mercury

—a very simple set of apparatus. Two spectra plates are shown, made with it—one about ⅓x3 inches, the other about 1¼x6½ inches. The colors are of astonishing brilliancy. One looks again and again before he can believe that the hues are photographic. They compare favorably with the strength of the colors of the spectrum when viewed directly. There is also the photograph of a circle whose quadrants are of different colors —fiery red, reddish yellow, greenish yellow and blue. The exhibit contains only two other examples—one of a twig of an oak tree, the other of a parrot—in both of which the colors are strong and natural. One cannot help believing that there will be great results from these beginnings, though they be small, and that some time we shall see objects in a photograph as they really are in Nature, though doubtless the method of procedure will be very unlike any yet devised.

The largest group in the exhibition is that of the Amateurs. This is truly international. Fifteen countries are represented by 146 exhibitors, counting a society as a single exhibitor. France has 108; Russia, 9; Italy, 8; England, 3; United States, 3; Buenos Ayres, 1; Costa Rica, 1. The rest are from European countries. It is estimated that there are 20,000 prints on the walls of the rooms devoted to this group. The work is all fine, and individual distinction is out of the question. The frame of Mr. Bain, ex-President of the St. Louis Camera Club, contains a view of an American locomotive and a Mississippi steamboat, strange-looking here, though familiar to us.

Charles Dessaux, architect, Paris, is the largest exhibitor. He shows 518 prints and 58 transparencies. Many of these are figure subjects. Indeed, foreign amateurs seem to do much more work in portraiture than do Americans. In the centre of one room a large volume of photographs is laid on a table, and an easy chair tempts you to sit down and examine at your leisure. A conspicuous exhibit is a large screen with six folds, both sides of which are covered with enlargements on silk, a baby and three children, nearly life size, a lady playing a harp, besides other figures. It is very beautiful.

There are 91 professional exhibitors—all European, save one from Mexico and one from Tunis. There are ordinary prints of all sizes, enlargements upon Eastman paper, platinotypes and many carbon prints. This last process is practised much more in Europe than with us.

In the other groups it will be quite sufficient to note novelties, and these are not numerous. Of course there are many cameras, both tripod and hand, most of them clumsy and inconvenient. I said many times to myself: "What a pity these people could not see the light, well-proportioned, simpler apparatus we have. Never mind, we'll give them a chance next year at Chicago." Don't expect them to adopt our ideas, however. They are slow to change, and cling to the old ways. The exhibit of lenses and shutters is very large. Dallmeyer is not represented. Scarcely any German work is shown in any department.

Nachet has a very convenient micro-photographic apparatus, in which there is vision of the object at the same time on the ground glass, and through an eye-piece, thus facilitating the adjustment of the size of the image and the focusing.

Two modes of taking panoramic views are shown—one for a semi-circle, large and clumsy, in which the film is in a semi-circular holder and the lens is swung by hand; the other for a full circle, in which the camera is rotated by clockwork and the film is drawn across the field from a roll-holder at the proper rate. The base plate is graduated in degrees, so that any number of degrees can be included in the picture. For military, engineering, or topographical uses, the apparatus has great value. The same may be said of the Photo-Theodolite, by Pollock, the chief engineer of the Royal Austrian Railway. From the views taken with this instrument contour maps may be drawn and the heights of various points determined.

Two slot machines were turning out tintypes of the curious for 10 cents, in three minutes, but the complicated apparatus rendered the constant attention of an operator necessary. Two apparatus were exhibited for showing moving objects—a runner, fencers, a galloping horse, or a flying bird. Prof. Marey, Director of the Physiological Station of the Princes Park, has devised an important application of this principle of the Zoetrope. Twenty-four views of a person are taken while he is uttering a word or a phrase. These are placed in the machine, and by synthesis of the pictures the same motions are reproduced. A deaf and dumb person watches the picture, imitates its motions, and thus learns to repeat the phrase. In the example shown, the face was saying "Je vous aime" ("I love you") over and over ceaselessly, with truly realistic effect. The 24 views are taken on one strip of film, with one lens, in a fraction of a second. These pictures can be projected on a screen, as Mr. Edison has proposed to do on a large scale. Marey exhibits views, among others, of the motion of the blood, of a frog's legs in swimming, and of the wings of a dragon fly. In the last a magnifying glass shows the veinlets and the spines on the wings.

The photographic gun is an ordinary sporting gun with a small camera attached to it, so that by pulling the trigger a snapshot of the game is taken before the shot overtakes the game. You serve it, and, as a souvenir of the feast, furnish a photograph of it to the guests. Rather ghastly for the game, isn't it ?

The writer is under great obligations to M. Attout-Tailfer, President of the Exhibition, for courtesies shown him while collecting the material for this description. M. Attout-Tailfer exhibits his isochromatic process, by a series of contrasted views of the same subject on ordinary and on isochromatic plates side by side, paintings, landscapes, costumes, portraits. When you have gone through them you wonder that any other plates are ever used.

There are also shown lenses of isochromatic glass, and beautiful large blocks of the glass, made by Mantois, successor to Feil, whose glass is well known.

The exhibition in all its parts is very full. It reflects great credit upon its managers and promoters. It also sets a very high standard for this department of the Columbian Exhibition. It demonstrates in every section the language of one of its circulars—"Since Daguerre, photography has marched at a grand pace, and one cannot tell where it will be arrested!"

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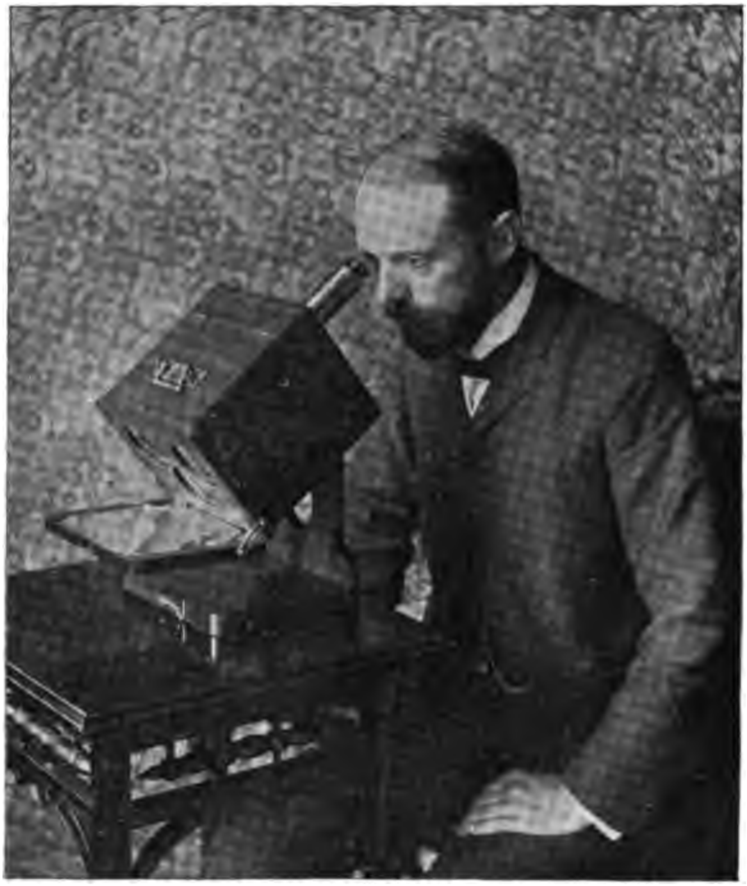
Press Comments on World's Fair Photographic Privilege.

WORLD'S FAIR PHOTOGRAPHIC PRIVILEGE.—Our friend Mr. F. C. Beach, of THE AMERICAN AMATEUR PHOTOGRAPHER, is endeavoring to bring all the photographic influence possible to bear on the World's Fair Committee, to prevent the selling of the sole right to photograph at the fair. Mr. Beach ought to have, and certainly must have, the support of every photographic club in this matter. We mentioned the subject editorially in a previous issue, and again we urge upon the fraternity the necessity of doing *something*. Every photographer, professional and amateur, whether he expects to visit the fair personally or not, should protest against the injustice of this narrow-minded scheme. The photographic clubs have a power. Let them use it; let the clubs instruct their presidents to sign the petition sent out by Mr. Beach, and return it without delay.

The World's Fair Committee have made up their minds that photography must pay them some revenue. This is well and good, but let them obtain that revenue from the thousands of photographers who will visit the fair, by taxing each one who photographs a small sum, which no doubt would be gladly paid. This idea of surrendering to one firm the sole right and privilege is absurd, ridiculous and thoughtlessly unjust to the public, for whose advancement the World's Fair is arranged.—*Pacific Coast Photographer for July*, 1892.

AMATEUR PHOTOGRAPHERS AT THE WORLD'S FAIR.—The decision of the World's Fair authorities to allow no amateur photographing on the grounds is arousing a general and vigorous protest from the various camera clubs of the country. A monster petition is being signed, to which it is expected to get the signatures of all the amateurs of the country. And if this does not move the authorities it is proposed to bring pressure on the President and on Congress. A prominent photographer estimates that, if they could have their way, at least 100,000 amateurs would go to the fair with an average of thirty plates apiece; that many of their negatives would be converted into lantern-slides, which would have a great effect through the exchanges in informing the general public about the fair.—*New Orleans Picayune, July* 9, 1892.



THE HELIOCHROMOSCOPE.

The Heliochromoscope.

THIS instrument, the invention of Mr. Fred. E. Ives, of Philadelphia, is an optical device for exhibiting a chromogram, or a special triple photograph, and reproduces the light and shade and colors of nature very perfectly. The operation is based on the three fundamental color sensations, the light from the three pictures passing through three different colored screens, then converging or blending into one picture, as will be seen when looking through the lens. The image stands out and appears as in a stereoscope, only in delicate colors. In a previous number we have described how the original photographs are made to get this result, and how, by means of the optical lantern, they were blended together on a screen. Mr. Ives has since perfected this new instrument for viewing the pictures by daylight. The illustration is a portrait of Mr. Ives in the act of looking into the instrument. The three lenses are seen at the bottom of the instrument, and the mirror below for reflecting the light upward. Like all new things, it is somewhat expensive, but is likely to be improved and cheapened in the future.

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Photographic Limits.*

BY CATHARINE WEED BARNES.

WHEN so much is being said as to the true status of photography, what it can and cannot do, what it ought and ought not to do, I feel that a survey of the subject and the criticisms upon it might be made with profit. Save me from my friends, to say nothing of my enemies, might Photography well cry ; for it is blamed, on the one hand, for its extreme accuracy, and, on the other, for not being accurate enough. The fact that such a question can be asked as "Can photography lie ?" and a serious answer be expected, shows the exceedingly great misapprehension existing as to photographic limits. Why not ask "Can a painter's brush lie ?" It does that same thing many a time and oft. While journeying this Summer I saw a painter busy on a certain view, and, though his drawing was reasonably good, his coloring almost blinded me. A well-taken photograph would have been vastly preferable. In this connection I cannot but fear that, when those earnest workers who are trying to solve the photography-in-colors problem attain their end, they are going to be somewhat disappointed. Color may be obtained, but not atmosphere ; and to an artist that means a great deal. The most ardent camera devotee must own that the scope of his beloved instrument is limited ; but he has a right to demand those limits shall not be arbitrarily circumscribed, or that photography shall be looked upon only as the poor relation of painting. Photography suffers because it is ordered to confine itself, outside of pure portraiture, to scientific work mainly, and is told it should not trench on the artistic preserves. The camerist is fully justified, and the claim cannot be too often or too strongly made, in drawing on all the resources of both science and art to realize his mental conceptions. As painters use different brushes for different kinds of work, so the camerist uses different lenses. What may be a positive defect in a lens when used for one branch of camera work proves often a virtue for another, and the artist is shown when the worker has skill and taste enough to reconcile the lens to the object sought. This means endless experiments, disappointments, exercising the most patient judgment, and, in short, attempting to adjust the too often conflicting claims of art and science in the photographic field. Although this is a broad and somewhat well-worn subject, there are still some things which can be said, and plainly said, upon it. Mr. Hinton's recent article, referring to work at exhibitions, should be widely and thoughtfully read, and its temperate tone gives it added importance. Exhibitions for the art side, pure and simple, have been held; but it should be suggested to the wise and good who preside at such exhibitions, or fill the post of judges, that art is sometimes confounded with liberality, and they are by no means one and the same thing.

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* Read before the London and Provincial Photographic Association, Sept. 22, 1892.

Scientists labor to secure as nearly perfect instruments as possible, and then, if they do not possess the art instinct, are apt to quarrel with those who believe not alone in elucidating some great scientific fact, but in turning the keen eye of the lens on the beautiful as well as the useful, studying its possibilities with a loving reverence until the senseless instrument seems to enshrine a living soul. I do not see any need for perpetually erecting this barrier, nor why those who keenly enjoy every new discovery in the pure science of photography should not also realize what great power it gives in developing the art side. The wonderful achievements of photographic science in the constantly expanding fields of human thought have, to some extent, bewildered people's eyes and affected their judgment. In its vastly increased facilities for work, photography is in danger of growing very much to one side, and that the scientific, unless the art fanatics, as some critics consider them, bring on such a thunderstorm occasionally as shall clear the controversial air, and allow photography to show what is possible in the way of broad, healthy growth. Why is it that, if we are so willing to acknowledge the tremendous strides made in strictly scientific knowledge, thanks to the lens, we are reluctant to acknowledge its power in the art world? Partly because photographers themselves as a body are not yet able to realize that the work is more than a pastime or a means of wage-earning; that, if they expect people to respect photography, they must prove its indubitable right to respect and give it constant and faithful study. Hundreds of photographers are not fit for their business, and very few, I am afraid, follow the custom of a distinguished Frenchman, and, out of working hours, study daily the effect of varied lighting on two figures, one draped in white and one in black. How many understand the importance of the quality and thickness of their skylight glass as affecting the limits of photography? Artificial lights, such as electricity or flash light, are good in their way, but are worse than useless in unskillful hands, justifying the reproach that photography is attempting too much. There is great room for extending photographic limits in the studio if operators would be liberal-minded enough to open their eyes and cultivate their understandings. This means educating the public, as well as the profession, and might rule out a large proportion of the latter; but that would be no loss, and the profession, as a whole, would gain immensely in the respect of men. Of course a pint pot is not to be blamed for being such, but it should not attempt to hold the ocean.

A story told of Douglas Jerrold may illustrate this point. Once an utterly incompetent author attempted to justify some of his poor work to the witty critic by the plea, "A man must live, you know!" "I don't see any necessity for it," said Jerrold. Many advanced photographers are, it should be said, ready to welcome new ideas, but are held back by the consideration that great changes involve at first increased expense, and sitters fail to appreciate that fact. Perhaps in no one branch of human knowledge have as great and varied improvements been made the past few years as in photography; but in some ways, while its limits have been extended, the work has suffered thereby. People are apt to imagine not that real progress has been made, but that the trick has been more cleverly managed, so that in one sense the work was more honored when it cost more time and labor than now, when a vast world of appliances have made it easier. We do appreciate a thing more when we have to work for it.

While in England nothing has impressed me more than the care given, on the whole, to making an exposure, guarding the plates from unsafe light, and, in fact, taking pains to do all the work well. It has been my privilege to work with some of the best-known English photographers, and to learn many lessons thereby. I think in this connection that previous training in drawing and painting should be valuable as giving freedom from the usual cut-and-dried recognized methods in camera work. Neither microscopic definition nor indiscriminate fussiness, neither hand-cameras nor tripods, is the only true and to be accepted doctrine for camerists, but each subject should be studied as a painter studies his subject, and treated as will show it to the best advantage. If this means obliterating any part of the negative or print, it should be done without the slightest apology. In short, from the moment of taking the plate from the box to mounting the finished print, consider, and only consider, the effect you wish to obtain. There is a certain class of critics who say photographers have no call to attempt purely illustrative work, it is beyond their province, and they wax eloquent on those unfortunates who essay the *rôle* of original designers and translators of poetic ideas into visible pictures. There are, to be sure, poems utterly unfitted for photographic reproduction; but there are many, very many others, which could well be illustrated by the lens, and the results utilized in some of the beautiful processes now possible, so that the reproductions would deceive the very elect as to their origin. The fact that it is in our power in these days to use lenses of such widely differing power is vastly more than adding to a painter's stock of brushes, and he who seeks to do really artistic work must have a battery of them and take the time to consider which one will be best for the view desired. Many workers use a lens altogether too large for the plate, which is almost as bad as straining a lens beyond its capacity. The difficulty of using different lenses in one front board seems likely to be met by the adjustable flanges now on the market. Like every other part of the apparatus, the lenses should be easily and quickly adjusted, and every one have a cap for one end as well as the other.

Regarding landscape work, the matter of limits is simple, to define interiors far more so, and figures most difficult of all. But it seems to me that if a figure study tells without explanation the story it is intended to tell, the designer can well afford to be utterly indifferent to all derogatory remarks as to whether his picture is or is not what certain grumblers would call "just a photograph." One of the leading art critics of New York was showing me some photographs a while ago which I said were poor, but which he intended to reproduce in a well-known magazine. "You look at them," he said finally, in a very positive tone, "merely as a photographer. I look at them as an artist." "Pardon me," was my reply, "I have been a photographer a very few years, and up to that time worked in painters' studios."

When the camerist comes to the developing stage, the Scriptural injunction should be adopted of proving all things, and holding fast to that which is good. The danger, however, is that the more expert a worker becomes the farther he is tempted to stray from the path of true art—simplicity; studying not merely the most fitting medium for showing his work, but making it a means of exhibiting his purely technical proficiency. There should be far more attention paid to development, and no one but the operator should by rights develop the exposed plate. Then, too, comes up the question of what is hand-camera work. At a recent society meeting it was agreed that, if a *bona fide* hand-camera was placed on a tripod, its results were not really hand-work. Considerable discussion took place, but it would seem as if we miss the real value of the work itself by raising such nice distinctions.

And now there is one more point which suggests itself, and that is the true relations between professionals and amateurs. There should be no jealousy between the two detachments of the camera army, as both seek a common end, and can best attain it by united action. I do not believe in drawing a sharp line of demarcation, remembering what I personally owe as an amateur to professional advice and criticism. It has been my fortune to be thrown into close relations with the profession at several conventions and exhibitions in America, and have, despite occasional illiberality, received from the best part of the members only cordial kindness and respect. We can help each other and should frankly own that fact.

In closing, let me say that this question of photographic limits is, after all, largely a matter of each worker's taste and skill. From the most careful scientific analysis to the most artistic conceptions, the lens obeys the will of the brain, using it far more broadly than some are willing to believe. The subject is one which could be followed into many by-paths and is too great for one evening's discussion. Let me put in a plea for fair judgment, a welcome for everything which will aid photographic progress in any and every field of human endeavor, and a reminder that such progress will be best attained by ignoring the point whether this or that branch of the work will be most benefited by each new discovery, remembering that advancement in one means advancement in all. Working on broad lines, keeping brain, eyes and ears receptive and liberal, we will in time place photography in her true position before the world. Let her limits continually expand, and each and all lend a hand in the good work.

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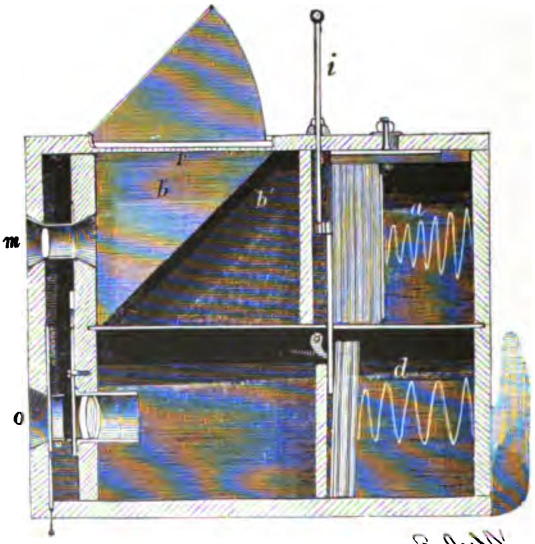
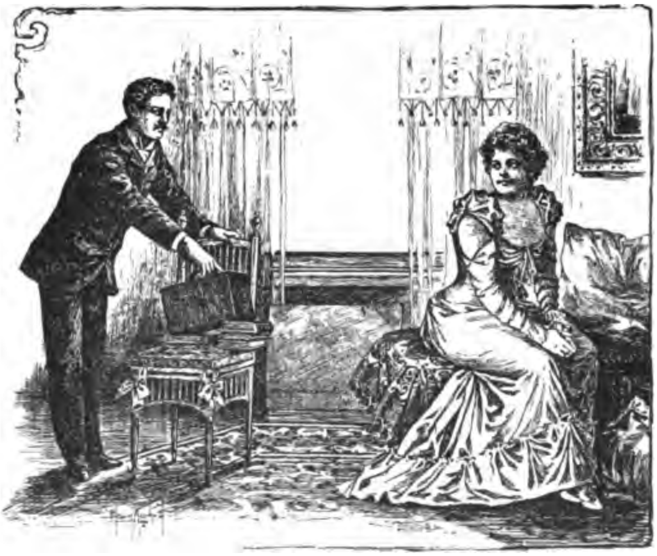


Improved Hand-Camera.

THE German edition of "Experimental Science" contains the following description of a magazine hand-camera, invented by Dr. Krugener, which differs in some respects from the one described recently in the *Scientific American*. (See September number of THE AMERICAN AMATEUR PHOTOGRAPHER.) It has a large finder, which includes the same area as the plate upon which the impression is taken. The finder lens is above the view lens, and the plates are transferred before the impression is taken instead of afterward, as in the camera above referred to.

A mahogany case of convenient form is divided into four compartments by horizontal and vertical partitions. Division *b* contains a mirror, *b*, placed at an angle of 45°, which throws the image formed by the lens, *m*, upon the ground-glass, *p*, so that during the taking of the impression the position of the object may be observed. Division *a* contains from 12 to 24 sensitive plates, firmly pressed by a spiral spring, by which they are moved forward, when one of the plates in division *d* is shifted by means of the transferring rod, *i*, so that it may receive the light from the object-glass, O. The next plate moves in front of the one already exposed. Every plate is fixed in a small shield, so that the forward plate protects all those behind it from the injurious influence of the light. The object-glass is closed independently of the shutter. The instantaneous shutter is placed in a compartment in front of the objective, and is therefore out of sight and protected from injury. It has been suggested as a further modification of this camera, that the finder lens may be a duplicate of the view lens, so that by arranging the box to permit of the exposure of two plates simultaneously, the instrument may be converted into an efficient stereoscopic camera. In this case it would, of course, be necessary to shift two plates for each double exposure.—*Scientific American.*



HE (who is not an expert with the kodak)—How long—eh—how long—ought the exposure to last?

SHE (a visiting cousin)—I don't know the custom here in Boston, but in our city it lasts the entire evening. At any rate, take time enough to get a good picture, old man.

Light and Shade.*

BY R. D. BAYLEY.

IN the first place, brethren, allow me utterly to disclaim all idea of trying to teach those who already know more than I do. To you, gentlemen of the art photographic, who have for years known and practised all I am about to write, I must apologize for occupying your time. For those, however, who, like myself, are merely humble learners, I wish to throw out a few hints that may be found useful.

I have chosen for a subject "Light and Shade on the Face." Have you not often looked at a beautiful photograph and wondered how it was made? I have. Such exquisite softness and brilliancy combined, how was it ever obtained? And then turning to our own every-day productions, we have decided that it must be "in the subject," or in something ese that *we* could not help.

Now, suppose for a change we throw the blame on ourselves, and admit that what we see is the result of careful, skillful work.

In what does the skill consist? In lighting, in timing, in developing. I want to speak a few words on the first of these three subjects.

You will find one of two prominent evils in most ordinary photographs. Either they are flat, uninteresting-looking things, or else they are harsh, black and white. I have made both kinds, and for the life of me I can't tell which is the worst.

Let us in imagination work together for a few minutes.

Place your sitter under the light and make all the necessary arrangements; expose a plate, and we will go in the dark room together and develop. The high lights begin to appear; gradually all the lighted side of the face comes up, but the shadow side hangs fire. "Ah!" we say, "*under-exposure.*"

Now, one of the first principles hammered into us was, *expose for the shadows, let the lights take care of themselves.*

So we expose another plate on our victim and lengthen the time. Once more we develop. The lights come out quickly, followed in due course by the shadows. We develop till all detail is out and the negative is dense enough, and then let our sitter go. And yet, strange to say, the photograph is not a good one. The shadows are out all right, but how about the high lights? They are blacked up—no detail, no snap, no life. When the prints are made they show one of two evils—either the lights have no life, or the shadows are black as ink, perhaps both.

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* Read at the Photographers' Association of Canada, Sept. 8th. Reported in the *Canadian Photographic Journal.*

We are very apt to look on such a print and say: "The negative was under-exposed, or it was developed too far." So next time we try to cure the evil. First we don't develop so far, and what do we get? A mean, thin, underdone negative, that will give weak red or gray prints.

Next time we vow we *will* have softness, and so we double the exposure, and we get a picture that would make *the very angels weep*, it is so flat and muddy, so bad, in fact, that we fly back to the chalk and blacking as a great relief. What is the matter? A very simple thing. There is too much contrast in the lighting.

The lights and shadows do not photograph properly in the same time, and you might keep on varying the exposure forever and still you would not obtain a good negative.

Let me ask you to separate that face into different parts, and we shall understand each other better.

First, then, here is the forehead and nose and lighted cheek bone in full strong light. How much time will they require to make a properly exposed negative? Let us say two seconds and a half. All right. Now for the deep shadows under the eyebrows and lower half of shadow cheek. How much time do we need for these to get rich shadows full of detail? *Oh, about six or seven seconds.* Ah, now we have it! If we can expose part of a plate two and a half seconds and part seven seconds, we can get a correctly exposed negative, but unfortunately we can't do that.

What can we do? Average it and give about five seconds to the whole plate, and what do we get? Raw under-done shadows and dense blacked-up high lights. I could show you lots of such pictures in *my* gallery, *not* in yours of course.

What then must we do to get good effects, to light the face that every part of it will be correctly exposed at the same time? The lights must be so toned down that they will stand, let us say, five seconds' exposure without being in the least over-timed, while the shadows must be so lighted up that they will be fully exposed in the same time. It matters not in the least how this is accomplished. Use any kind of screens that will effect your object. But train the eye to see when the lights and shadows bear a proper relation to one another, and to be able to give the correct time. If you can do this, you will be a happy man, and unless your posing is horrible, you will get out some fine work. Now, let me tell you honestly, I can't do this, but I try. But the men who have made themselves famous, the great men in photography, are those who have learned this lesson most thoroughly and practise it most constantly.

Place then this motto before you: "EACH PART OF THE FACE MUST BE CORRECTLY TIMED." Then the shadows will have detail and the high-lights crispness and snap.

Editorial Comment.

Our Illustration.—The facility with which shutter exposures may be made in the brilliant Summer light of this latitude is shown in the pretty bit of headland scenery forming part of Point Gratiot Park, Dunkirk, that appears as the frontispiece of this number. Dr. George E. Blackham points out the fact, in his article, that the amateur frequently overlooks the interesting localities near his home for more distant places, and we quite agree with him. It should be the aim of every earnest amateur to seek out and record photographically all the pretty spots at home or near it before attempting other work. We recall the work of Mrs. Jeannette Appleton in getting up a souvenir book of Manchester-by-the-Sea, which contained many interesting pictures of that town that were highly valued by the residents. Also Mrs. Alice Orbison has gotten up a similar collection of views around her home near Frankfort, Ky. Mr. H. M. Grisdale, of the Society of Amateur Photographers of New York, has also gathered an excellent collection of views in Bronx Park, N. Y. When an effort is made to discover the picturesque views to be found about a home in the country, it is surprising what an abundance of material is presented.

There are attractive winding lanes and narrow roads, wayside brooks, shaded woods and stretches of water that may be easily found and converted into artistic pictures.

We are sure the effort of Dr. Blackham will inspire others to adopt a similar course.

Printing-Out Papers.—The familiar phrase, "You press the button, we do the rest," while giving to the uninitiated a sense of ease and freedom in picture-taking, is also working good by showing those who wish to go further and learn how the "rest" is done, to take up some one brand of the numerous ready-sensitized papers now to be had and do their own printing. The manufacturers are continually making improvements with a view of overcoming defects that experience has brought to light, all of which is tending towards the production of a very workable and certain article.

The papers presented may be divided into five classes: The ready-sensitized albumen paper, which is generally much slower than others; the ferro-prussiate, or blue printing paper (the slowest of all); gelatino-chloride papers (those coated with a sensitized chloride-gelatine emulsion); collodio-chloride papers, or those coated with a thin collodion emulsion, and platinotype paper, the quickest of the printing-out variety. Of all the foregoing, the blue printing paper is perhaps the cheapest, the cost of the others being nearly equal. Not so much ready-sensitized albumen paper is used in this country as of the other two classes—gelatino-chloride and collodio-chloride—and it is in these that the most progress has been made.

They are found to keep well, to print as rapidly as freshly prepared albumen silver paper, and to render the minutest details as clearly as possible. In some respects the collodio-chloride papers have the advantage of the gelatino-chloride in that they usually possess a finer film and one capable of receiving a higher burnish; besides this, in the toning operations, the use of alum is not needed to harden the film. But a difficulty met with in working has been the tendency of the paper to curl up abnormally and to sometimes crack. With some papers hot-water treatment has been found to act as a preventive, but later improvements, such as coating the back of the paper with a special counteracting film, avoid the use of hot water. A slight preliminary washing of the print in cold water suffices; then it may be put into a combined toning and fixing solution, when it readily tones without becoming much lighter, and lies perfectly flat in the solution. The operation of toning takes about ten minutes; washing for an hour afterwards in changing water is sufficient; then the print is dried flat, with the back resting upon a sheet of blotting paper. The edges of the print have a slight tendency to curl, but if the prints are put under pressure afterwards they remain flat. It is advisable to move the prints about carefully in the toning solution by taking hold of the corners, since the delicate film is liable to crack at the edges if the print is roughly handled.

If the print, while wet. is squeegeed on to a ferrotype plate or sheet, over which has been rubbed a little talc, and allowed to dry, it will, when pulled off, possess a brilliant gloss. Should the print then be coated on the back with a mounting solution the gloss will disappear, and in order to mount without such trouble it is recommended that a very thin line of ordinary fish glue (found in the market under different names) be spread around the back edge of the print, about one-eighth of an inch wide, with a small brush, and then be placed at once on the mount. The thin coating of glue does not transmit moisture to the film, and as it dries quickly, the print adheres uniformly to the mount.

The platinotype paper spoken of is not capable of receiving a gloss, but has for its peculiarity what is known as the mat surface, which to many is much more artistic, especially in prints of large size. This paper is printed out in the printing frame until a very slight trace of the image is shown; then it is immersed in a bath of oxalate of potash, and the picture is at once developed. Some little skill is required to get the print exactly the right tint, but late improvements have made it possible to remedy somewhat defects of over -or under-exposure. It might properly be termed a combined printing-out and developing paper. The result of these different improvements is certain to make printing by amateurs much more popular and enable them to secure more satisfactory pictures than is usually turned out by the average professional photographer.

Advantages of a National Lantern Society.—In the workings of the American Lantern-Slide Interchange there has developed a desire among amateurs not belonging to clubs, to enjoy some of the advantages of the interchange, it being suggested that they have the privilege of paying a stipulated amount for the use of sets of slides; but as the present interchange is a confederation of clubs, there is no provision for the use of its slides by individual amateurs.

We think if a lantern society, national in character, was organized, having certain centres for the storing of sets of slides, lanterns and screens, arranged with suitably prepared lectures, that could be loaned for a moderate sum to members, a most interesting branch of photography would be popularized. It would enable many amateurs who only wish to give lantern entertainments at long intervals to secure the use of a first-class apparatus at a small sum and avoid the expense necessary in purchasing a good lantern and its accompanying equipments. Such a society would have the best apparatus for oil or gas, and make a point to see that it was always in good order. In addition to the apparatus there would eventually be a fine varied collection of slides to draw upon, as it could be made a condition of membership that each member would be required to furnish a certain number of slides each year.

We shall be pleased to hear from our readers interested in slide work on this subject. We believe such a society would become very useful. A similar organization in London, "The Lantern Society of London," has sent to the American Lantern-Slide Interchange one of the best sets of English slides ever seen here. There, members of the society having sets of slides loan them to the society for the use of other members, and are entitled to the use of other sets belonging to the society. A member loaning a private collection of slides has the privilege of withdrawing it at any time from the society by giving a month's notice. Members who do not contribute or donate slides to the society are obliged to pay twelve cents for each dozen, or part of a dozen, they borrow for exhibition purposes, and fines are provided for in case a set of slides is kept beyond a certain time. The special object of the society is to acquire suitable apparatus, for the purpose of giving exhibitions of general and scientific interest; to offer awards for the development of the optical lantern and apparatus pertaining thereto; to impart instruction in the use of the lantern and its apparatus; to secure for its members special advantages in the purchase and loan of apparatus and slides; to originate a large and comprehensive loan collection of lantern-slides illustrative of art, science and kindred subjects, such collection to be placed at the disposal of every member of the society; to provide means of intercommunication between members for the promotion of the interchange of private collections of slides; to collect and impart to such members as desire it information as to the means of obtaining permission to photograph in the various public museums and collections.

Special branches of photographic work undoubtedly demand special organizations to thoroughly promote them, and for this reason a lantern society would appropriately meet the wants of those interested in slide-making and lantern work.

The World's Fair Photographic Privilege.—Not much progress has been made during the past month towards the solving of the question as to what rights are to be accorded at the Fair to amateurs and others. Learning that the Chief of Construction had some authority in the matter, we addressed a note to him, putting the question point-blank as to what were the special reasons he had for refusing the amateur photographer the right to photograph on the grounds with a hand-camera. Mr. D. H. Burnham, the chief of this department, replies as follows, somewhat evading the question :

> "There are many reasons why we employ an official photographer. Among them are : To insure only such pictures as shall do credit to our work (this, of course, is of the greatest importance); for the purpose of preventing the general production of plates and sale of pictures, as this will be a source of a large income to the Exposition Company. We shall have expended $18,000,000 by the time the fair opens, and it is the duty of the officers of the company, while affording the public all possible facilities for the purchase of pictures at reasonable rates, at the same time to reimburse the corporation as much as possible on the enormous outlay." He further states that "Mr. Charles Dudley Arnold is the official photographer of the World's Columbian Exposition, and that he will take special views for outside parties, turning over plates to the purchaser for his exclusive use, but with the distinct understanding that they shall not be reproduced for the market. Publications, however, can be supplied by him."

The ground here assumed is that there is only one photographer in the United States who can take negatives to do justice to the World's Fair buildings, and he will for a consideration take such views as may be wanted, and deliver up the finished negatives for the purchaser's own use, with the agreement that he will not publish or sell. This is precisely the position the amateurs take, only in another form. They are willing to pay a consideration for the privilege of exposing plates in their own cameras, doing the development and other operation themselves, agreeing at the same time, very distinctly, not to reproduce prints for the market. Not only will such a privilege be more sure of bringing in a larger income than Mr. Burnham's plan, but it will give greater pleasure and public benefit to the thousands of amateurs, and to their friends as well, and, in fact, will so educate more people to become interested in photographs, that they (the people) in turn will buy greater quantities of the official photographs than otherwise.

It is reported from Chicago that an official of the Ways and Means Committee says :

"That Mr. Arnold, the photographer, who has from the first been employed by the exposition, would continue to be at the head of the photographic department, and to him will be largely left the question of admitting amateurs to the grounds. We shall probably admit amateurs with cameras not larger than 4¼ by 5½, or the corresponding size, at the regular license fee of two dollars per day, but it is not definitely decided yet that amateurs shall be admitted on any terms."

It will thus be seen there is still some doubt as to whether the amateurs will be admitted at all with their cameras, but owing to a division of authority influences may be brought to bear with sufficient force to secure some rights in the end.

We are glad to record the receipt of a petition from the secretary, Mr. George Davison, of the London Camera Club, signed by its president, Capt. W. de W. Abney, representing a membership of 720. The petition has been sent forward to the Ways and Means Committee at Chicago, and ought to aid in convincing the authorities of the need of affording amateurs some privileges. In transmitting to the exposition authorities at Chicago the vote of the British convention of photographers, held in July at Edinburgh, the president, Mr. George Davison, accompanied it by a letter from Sir H. Trueman Wood, one of England's commissioners to the Fair, urging the authorities to give the matter serious consideration. The response from Chicago in a letter sent to him was as follows: "The motion adopted by the convention will be takon into consideration when the question of photographic rights within the exposition grounds is taken up."

In addition to the foregoing petition we have transmitted to Chicago petitions from the Oxford Photographic Society, of Oxford, Eng., the Manchester Amateur Photographic Society and the New York Camera Club.

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WORLD'S FAIR EXHIBITS.—Some very interesting exhibits of photography are to be sent to the Exposition from Sydney, New South Wales. The collection is being prepared by the Government printing office, and will consist of some 400 views measuring 40 by 30 inches. Some of these pictures when arranged in panoramic order will finally measure 40 feet in length. An enlarged view of the moon, from a negative taken by Mr. Russell, the Government astronomer at the Observatory, is said to be one of the gems of the collection.

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Possibly one reason why we hear so little about photography at the coming World's Fair is because the committee has seen fit—at least so the American papers tell us—to assign the right of photographing at the Fair to one firm. Presumably this firm will have to pay a heavy sum for the privilege extended to it, and no doubt the committee congratulate themselves upon securing this as an assured item of revenue. They would, however, do very much better if, instead of selling the right to an individual firm, they were to charge a reasonable fee for each camera, professional or amateur, which was carried into the place. There is a general feeling that some arrangement on these lines should be arrived at, and we trust that those of our readers who are asked to sign the petition upon the subject which is about to be circulated will do so without question, although they do not intend to visit Chicago themselves.—*Photographic News.*

Chicago, 1893.

The effort of the *Practical Photographer* of London to co-operate with other journals and societies in aid of the interests of photographers at the World's Fair is a most worthy one, and if earnestly supported, as it should be, will be certain to secure advantage, which otherwise would not be had. The special committee representing photography and the interests of photographers in the British commission to the Fair is composed of such men as B. Francis Cobb, the Attorney-General M P.; Sir Frederick Bromwell, Bart., D.C.L., F.R.S.; Capt. W. de W. Abney, C.B., F.R.S.; George Davison, James Dredge, Col. Joseph Gale, and H. P. Robinson. Among the English photographers who propose coming is Mr. F. York, the well-known manufacturer of lantern-slides. The *Practical Photographer* says, in its September issue, "that there will be a number of small parties come over at different times, and that its proposition may be regarded more as a sort of federation than as one single party coming at one time. We propose that the excursion shall have a definite name, yet to be decided; that members shall have distinguishing tickets, entitling them to such privileges as we are able to obtain, and that a programme and book of useful information for photographic visitors shall be issued for their use.

"The programme will cover the whole time the exhibition is open, and include:

"1. Dates and subjects of meetings of such societies as offer their hospitality to our visitors individually. 2. Addresses and particulars of societies whose dark-rooms, libraries, etc., are placed at the service of our individual members. 3. Brief itineraries of the principal cities, with hints as to the objects of interest to be photographed, etc., etc. 4. A directory of photographers and others in the various cities who will be prepared to give information and assistance to our visitors. 5. Full particulars of the World's Congress on Photography, which will be held during August, and of the Convention of the Photographers' Association of America (July 18th to 21st), which, it is hoped, a large number of the Old World visitors will be able to attend.

"An erroneous notion has got abroad to the effect that visitors entering the United States next year will have to pay duty on their cameras, lenses, etc. We wrote to the Consul-General of the United States on the subject, and he replies as follows:

"'H. SNOWDEN WARD, ESQ., Editor *Practical Photographer*:

"'SIR—In reply to your letter of the 17th inst., I beg to say that cameras in use, taken over by passengers, are admitted free as personal effects.

"'Your obedient servant,

JNO. C. NEW, Consul-General.'"

We might add, for the information of our foreign visitors, that another section of the tariff law admits tools of trade free of duty, and to a photographer lenses, cameras, tripods, etc., are regarded as such whether owned or used by an amateur or professional.

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Much opposition is shown to amateurs attempting to photograph at Ocean Grove and Asbury Park, N. J.

Society News.

THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—The first regular monthly meeting for the season, 1892-'93, was held at the rooms of the society, 111 West Thirty-eighth street, on Tuesday evening, September 18th, and was called to order about 8:40 o'clock by President R. A. B. Dayton. The scientific business presented was an informal talk by Mr. Wm. M. Murray on the teleo-photographic lens, particularly the new combination constructed by Dallmeyer. He explained the form of Kepler's astronomical telescope, invented in 1611, and the Galileo modification, illustrating their construction by diagrams on the blackboard. He also showed how the astronomical photographic telescope is unsuited for ordinary work. One reason was that it was so long, and another that it contained a special colored light-sifter; much light was lost, making very extended exposures necessary. Lenses, he said, were divided into two classes—positive (convex) and negative (concave)—and illustrated this point with a plano-convex lens, explaining the course of rays of light through a lens and the difference between a real and inverted image. The Galileo form of telescope is utilized in the construction of opera-glasses and field-glasses. He showed how an opera-glass could be used as a miniature teleo lens, but said it was difficult to obtain distinct pictures on account of the short focus of the objective. Dallmeyer adhered to the Galileo form, but had made important improvements as late as last March. He substituted for a large objective a particular form of a portrait combination of short focus, similar to that invented by his father, which allowed a diffusion of focus. The function of the introduction of the portrait combination was to correct the spherical aberration of the objective. The objective in the new lens is a double convex united with a double concave. The focus is long and the field of view narrow or limited. Behind the objective, nearly midway in the tube, is placed the portrait combination, and what is called the eye-piece or lens is constructed of double concavo-convex lenses arranged in pairs similar to the well-known Morrison lens, and is symmetrical. This rear combination of lenses, when moved nearer to or away from the portrait combination by a very slight movement, makes a very appreciable difference of the size of the image on the focusing screen. A fixed diaphragm is inserted between the objective and portrait combination. By placing the lens in the front board of the camera so that half projects in front and half extends inward, some space in the draw of the bellows is gained and the lens-tube is better balanced. With this construction the length of a bellows need not exceed three feet. He explained the construction of Dr. Miethe's teleo lens, but did not think it could be as effective as Dallmeyer's. It followed closely the plan of the Galileo type of telescope.

Some discussion ensued as to the advantage of photographing with an opera-glass lens. Mr. Murray found it was difficult to obtain satisfactory results; the picture would be more or less indistinct. He showed three photographs, given to Mr. E. Warren by Dallmeyer, of a building, distant 500 yards, taken respectively with a rapid rectilinear, a single landscape lens, and the teleo lens. The latter picture was five times as large as the other images. He was accorded a vote of thanks.

Mr. F. C. Beach exhibited specimens of a new kind of bromide print. The paper is specially prepared first with a water-proof coating, over which is flowed the sensitive emulsion. The advantage is that the image is kept on the surface, does not sink into the paper and makes a clear, brilliant picture. The back of the paper is coated with an adhesive material which permits it to be mounted as soon as the washing is completed and prevents the paper from curling. The prints shown were excellent examples and demonstrated also the advantage of the paper for enlargements. It is made by a new concern in New Jersey, and is called the K. & W. Monogram paper. The same firm also makes a collodio-chloride printing-out paper of great brilliancy, specimen prints on it also being shown by Mr. Beach. It is prevented from curling by a special preparation coated on the back.

Mr. W. F. Hapgood exhibited a late style of a Thornton-Pickard shutter, which, he said, was largely used in England. The lens-hole was lined with a rubber packing which allowed the shutter to be put on lenses of varying diameter with facility. He also showed a storage-battery, portable electric lamp of three or four candle power, brought by Mr. Plimpton, which was useful in the dark room when protected with ruby paper. It would run for five hours and took three hours to charge it, and weighed about five pounds.

The president announced that arrangements were to be made in combination with the Newark Camera Club to charter a special boat for photographing the naval parade of the Columbian celebration on October 11th, and that a competitive exhibition of prints only by members of the society would be held in the rooms of the society, either in March or April next. A committee had been appointed to work the matter up.

Mr. Beach spoke of the work of getting the World's Fair authorities at Chicago to admit the camera on the payment of a small fee, and of the probable success of the endeavor. Fifty societies out of the sixty in the United States had supported the petition for such extension of the privilege, and some sixty members of the society had also gladly assented individually to the petition. He thought it highly appropriate that the society should also indorse the petition as a body, that it might be found to be in sympathy with the movement; but his motion to have the president sign the petition on behalf of the society, after some objections on the part of a few of the officials, was voted to be referred to the Board of Directors with power to act, which is, so it is said, equivalent to tabling the whole matter. It is reported that Mr. Fred'k Vilmar and Wm. B. Post have been elected members of the Board of Directors in place of J. Wells Champney and Mr. Spies, resigned.

Exhibition of Lantern-Slides.—At the first exhibition of lantern-slides for the season of 1892-'93, held at the rooms on Friday evening, September 23d, there were shown ninety-two slides, selected from an aggregate of two hundred and twenty-eight, contributed by the Newark Camera Club, the Photographic Club of Baltimore City, the Portland (Me.) Camera Club, the Photographic Society of Philadelphia and the Joliet (Ill.) Camera Club. The slides most admired were the marines of T. A. and G. C. Hine; the illustrations of the Joliet prison life, by Messrs. Gale & Whetmore; the snap-shots of lawn-tennis games, by John Glenn, Jr.; the darky subjects of Clarence B. Moore; the views of Alaska and Yosemite, by Professor Rowland; the Mexican scenes, by Wm. H. Rau; the Switzerland pictures, by Dr. C. L. Mitchell. The beautiful genres and landscapes of Robert S. Redfield ended an exhibition remarkable for technical and artistic excellence. Mr. William M. Murray officiated at the screen, and Messrs. A. P. Shoen and F. Elgar at the lantern.

CALIFORNIA CAMERA CLUB.—On August 10th the set of English "*Photography*" prize slides were exhibited before a large audience of members and friends at the rooms of the club. The club has been busy preparing slides and prints for the annual pay exhibition to be held in September. The committee in charge of the First Annual Print Exhibition is: E. L. Gifford, W. J. Street and C. F. Thirbach. A special field committee, consisting of W. J. Street, J. J. B. Argenti and W. B. Lee, had charge of a competitive prize outing. Three prizes were to be awarded. The place of the outing was Ignacio, and the decision of the committee was made known on September 3d. The twenty-seventh illustrated lecture, "From the Mississippi Delta to the Columbia," by E. McD. Johnstone, was given in the Metropolitan Temple, on Friday evening, August 26th. The slides were made by Mr. Howard C. Tibbetts. The lecture was quite interesting, and a full house was present.

On September 9th many members of the club attended the races of the Oakland Canoe Club and secured many interesting photographs. On September 13th the Second Annual Pay Slide Exhibition of the club was given before a full house at the Metropolitan Hall, in San Francisco, at which some 240 selected, choice slides by members of the club were shown. Mr. Edward Johnston acted as lecturer at the screen, and Mr. T. P. Andrews operated the lantern. Mr. T. P. Andrews, for a long time secretary of the club, has handed in his resignation from that office (which took effect October 1st) on account of his new business relations, which will take him much of the time out of the city. It was largely through his efforts in popularizing the club that it reached such a remarkable growth in so short a time.

On September 17th the club went on a marine field day excursion on the steamer "Caroline," upon invitation of Captain Seale.

MINNEAPOLIS CAMERA CLUB.—The club opened its new rooms with a fine reception on the evening of September 14th. Mr. Ralph D. Cleveland gave an illustrated lecture on "Pictorial Effects in Photography," which was well received.

ORANGE CAMERA CLUB.—The members of the club are busily engaged in preparing for a special exhibition of lantern-slides at Music Hall, on October 12th, when 200 slides, the work of members, will be shown. The special committee in charge is Vernon L. Davey, Charles A. Mead and John L. Yateman.

SPRINGFIELD CAMERA CLUB.—At the Fall meeting of the club, held in the latter part of September, arrangements were perfected for the holding of the annual exhibition on a large scale.

NEWARK CAMERA CLUB.—The club, at its regular meeting in September, voted to change its meeting night from Monday to Tuesday. Meetings will occur on the second and fourth Tuesdays. On September 3d six members visited Palenville in the Catskills and secured several fine views. A new portrait camera has lately been added to the club's equipment. On September 12th the lantern-slides of the Philadelphia Photographic Society and the Joliet Lantern Slide Club were shown. Members are actively engaged in preparing slides for the Winter exhibitions.

THE NEW ORLEANS CAMERA CLUB.—The regular monthly meeting of the club was held on the evening of August 3d—President J. E. Bowman in the chair. The chairman of the Lantern-Slide Committee reported that out of the 114 slides that were sent out on exhibition to the principal cities, twenty-seven were returned to go to the international exhibit of lantern-slides to take place this year. A special committee of five, consisting of H. Carpenter (chairman), L. E. Bowman (ex-officio), C. de Quesnay, F. W. Castleman, P. Reynes and R. H. Palfrey, was appointed to look for new quarters.

Mr. W. W. Crane was elected a member of the club.

Mr. Bowman then introduced Mr. W. Beer, the librarian of the Howard Library and secretary of the Louisiana Folk Lore Association, who asked for the co-operation of the members of the Camera Club in obtaining photographs of the different street-criers in this city, for the exhibition of the camera clubs at the World's Fair. After the members of the club had signified their willingness to secure the photographs, the meeting adjourned until the first Wednesday in next month.

On September 14th the club moved into its new quarters, No. 12 Union street, occupying two floors. At a meeting of the club held the same evening an invitation was read for members of the club to photograph the Women's and Children's Hospital, the exterior and interior, the collection to be sent to the World's Fair. Mr. H. Carpenter, formerly president and now treasurer of the club, tendered his resignation of the latter office on account of his absence from the city. It was accepted with regret. Mr. Stanly Mitchel was then elected treasurer. Special committees were appointed to take charge of furnishing the rooms and to arrange and manage a public exhibition. Mr. Wm. Bier was appointed librarian of the club. It now has 107 members.

DELAWARE CAMERA CLUB.—This new club, located at Wilmington, Delaware, has a membership of forty-three, and provides excellent facilities for photographic work. Frequent displays of work by members are made. The officers are: President, John M. Rogers; first vice-president, Miss Rachel S. Howland; second vice-president, Richard P. Pim; recording secretary, Ernest B. McNair; corresponding secretary, Miss Eleanor G. Walton; treasurer, Caleb M. Sheward.

HOBOKEN CAMERA CLUB.—On September 24th and 25th the many members of the club went on an outing to Boonton, N. J. The officials aim to encourage these short outings, believing that they tend to promote fraternal feeling among the members. Several members have taken up lantern-slide work, which, it is expected, will show well for the club at some of its future exhibitions.

LINCOLN (NEB.) CAMERA CLUB.—This new club was organized on August 23d. C. A. Wickersham was elected president, F. S. Kelly vice-president, M. H. Baldwin secretary, and W. S. Huffman treasurer. An outing was held at Lincoln Park a few days afterward.

PHOTOGRAPHIC SOCIETY OF WATERBURY.—On the evening of July 19th Mr. S. B. Hill talked entertainingly, at the rooms of the society, on the composition and properties of pictures. In the Fall and Winter the society will give twenty-three lantern-slide exhibitions, with lectures by well-known amateurs about the country. The society now has a membership of forty-eight.

THE BROOKLYN Y. M. C. A., CAMERA SECTION.—On the evening of July 13th the Camera Section of the Young Men's Christian Association held a meeting at which there was an illustrated talk by Mr. C. F. Halstead on "Our Last Outing." The talk was a very interesting one, being a description of the last excursion of the Camera Section for the purpose of taking pictures of new, and hitherto untried, scenes.

IOWA PHOTOGRAPHERS' ASSOCIATION.—On August 2d this association met at Des Moines, Iowa. About fifty members in attendance. It was organized a year ago with the following officers: G. L. Temple, Clinton, president; John Vernan, Des Moines, secretary; T. L. Brown, Marshalltown, treasurer; T. L. Vale, Keokuk, and Mrs. Schooley, Indianola, vice-presidents. There was a fine display of photographic work on exhibition.

THE WORCESTER CAMERA CLUB.—The club went on its first outing on July 23d, to the east side of Lake Quinsigamond and Park. Many ladies attended. It is reported to have been very successful. Twenty members of the club went on an outing to Concord and Lexington on the 10th of September. An exhibition of prints was held in the Art Students' Rooms, on October 6th, 7th and 8th.

THE PHOTOGRAPHERS' ASSOCIATION OF CANADA.—At a meeting of this association, held on September 8th, in Toronto, Canada, the question of portrait fakirs was discussed, and it was proposed that the Government be asked to form a law for their prosecution. Among the papers read were one on "Light and Shade in Portraiture" (see page 454), by R. D. Bayley, of Battle Creek, Mich., and another on "Better Help: How to Secure It; How to Raise the Tone of Photography," by A. M. Cunningham, of Hamilton.

In his paper on "Help," Mr. A. M. Cunningham says that the question often arises: "How can photographers get good help?" The main trouble is that poor employers pay poorly, and have poor rules for the governing of the apprentices. Employers who are poor rely on their experience of from twenty years or more in teaching the business, and fail to educate themselves up to the present needs of the times. As a matter of course, they are unable to instruct their help in the improved methods if they do not understand them themselves. The average wages paid is seldom sufficient to tempt a young man of average ability to adopt photography as a profession. Cases are not rare where young men have paid fifty or one hundred dollars to learn the business in from three to six months, and they seldom obtain positions paying more than eight dollars a week. To remedy some of these evils Mr. Cunningham suggested that conventions be attended by help, who can see for themselves demonstrations and hear discussions on every-day work, where they can also see the best productions. He also suggested that prizes be given by the conventions each year as an inducement for practical talks or papers by practical men on practical subjects, or, in other words, by a specialist; and advised the granting of diplomas, which he thought would act as an incentive to those who had already made a good start, whether in printing, retouching, portraiture, or as a practical operator.

The Executive Committee was instructed to prepare a constitution and by-laws for the association. A resolution of condolence was passed to Mrs. Dixon, the wife of Mr. Dixon, a Canadian photographer, who lost his life in the Niagara rapids. Mr. Cunningham's paper was so much appreciated that it was voted to have it printed and distributed among the photographic fraternity of Canada. The members of the association were photographed on the steps of the Metropolitan Church the same day as the meeting.

NEWARK (DELAWARE) CAMERA CLUB.—This amateur club was organized in April, 1892. At its third meeting the following officers were elected for the year:

Prof. F. D. Chester, president; Mr. F. W. Curtis, vice-president; Miss Elizabeth Lindsay, treasurer; Mrs. E. C. Brooks, secretary.

Besides the above the membership includes Miss Annie Lindsay, Professors M. H. Beckwith and W. H. Bishop, Mr. John Armstrong and Lieut. E. C. Brooks, U. S. Army. The meetings have been held on the second Monday of each month. Several members have private dark rooms in their homes. Already the club has given a lantern-slide exhibition in the oratory of Delaware College and the net proceeds were donated to the order of King's Daughters of Newark, Del. The views shown were of local scenes, army life at frontier posts in Texas and North Dakota, interesting microscopic subjects (kindly loaned by the Delaware College, Agricultural Experimental Station), and personal pictures, highly enjoyed by the audience and by those thus unexpectedly confronted by their own images. A series of fine slides, rented for the exhibition, of views in the National Park and the Yosemite Valley, were also shown. The next regular meeting will be held October the 10th.

NEW YORK CAMERA CLUB.—October is the month in which active work among the members begins. A special steamer was chartered to take members and friends out to photograph the Columbian naval parade on the 11th inst.

Books and Exchanges.

CATALOGUE OF THE SECOND ANNUAL EXHIBITION OF PHOTOGRAPHS, BROOKLYN INSTITUTE, DEPARTMENT OF PHOTOGRAPHY.—The catalogue is neatly gotten up, the type being printed on stone-colored paper, between the pages of which are inserted illustrations made by the half-tone process. One, entitled " Winter," is by J. W. Morrow ; another, "Water Cart, Lake Mahopac, N. Y.," by Mr. Geo. W. Street; another, "Dining-room of the White House, Washington, D. C.," by Miss Virginia Chandler Titcomb ; another, "At Irvington," by Mr. John H. Dingham ; another, " The Maples," by Mr. Gould W. Hart. It was nicely bound with a cream-colored cover, and was presented to each visitor attending the exhibition.

FLASH LIGHTS, AND HOW TO TAKE THEM. By Lewis Clarence Bennett, New York. Price 50 cents. 42 pages.

A pamphlet giving diagrams and full particulars how to take portraits, interiors, silhouettes, and containing also chapters on apparatus and general hints.

PORTRAITS IN CRAYON ON SOLAR ENLARGEMENTS. By E. Long, Quincy, Ill. Price $1. Third edition, 44 pages.

The book has a full-page frontispiece, and contains-much useful information on the various points to be observed in making a successful and satisfactory crayon portrait.

YEAR BOOK FOR PHOTOGRAPHIE UND REPRODUCTIONSSTECHNIK FOR YEAR 1892. By Dr. Joseph Maria Eder. Publisher: Wilhelm Knapp, in Halle a. S., Germany.

A book of 520 pages, printed in the German language and copiously illustrated in the back by many kinds of photo-mechanical illustrations. Dr. Krugner explains in detail the method he employs in making a simple magazine hand-camera. There are also illustrations of many other kinds of apparatus, and several formulas useful to the photographer. The book contains much valuable information.

CATALOGUE OF THE SECOND ANNUAL EXHIBITION OF THE PORTLAND CAMERA CLUB.—A pamphlet of sixteen pages, giving a list of the photographs contributed to the club's annual exhibition, May 14th to 21st inclusive. The cover is illustrated with a picture of the club building.

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Editorial Table.

DETROIT PROSPERITY.—We are pleased to note that the prosperity of Messrs. Allen Bros., of Detroit, has been so great that they are now compelled to move to a handsome five-story stone-front building at 247 Jefferson avenue, Detroit, where they intend keeping a largely increased stock of photographic apparatus and materials. It should also be borne in mind that they are the exclusive agents for the well-known Suter lenses, which are very popular and have a large sale.

A NEW BUFFALO FIRM.—We are informed that the well-known firm of Tucker & Butts, of Buffalo, has been dissolved by mutual consent, Mr. Tucker retiring from the business. A new firm will succeed them under the name of Butts & Adams, Mr. Stephen B. Butts still remaining to carry on the business. It is to be located in spacious quarters at 457 and 459 Washington street, Buffalo, where a full and complete stock of photographic supplies will be kept.

BOSTON SUPPLY HOUSES.—No finer line of photographic goods can be found than in the well-known house of Geo. M. Babb, in Boston, successor to Codman & Co.

In the line of optical lanterns Messrs. A. T. Thompson & Co. supply superior goods at reasonable prices. They make a specialty also of preparing lantern-slides from amateur photographers' negatives.

MISS BARNES' TOUR THROUGH ENGLAND.—During the latter part of August the Birmingham Photographic Society, in England, treated Miss C. W. Barnes right royally—received her formally at a special slide entertainment, got up a special excursion for her benefit to Kenilworth and Warwick, and brought together a large meeting of the members to listen to her paper on "American Work and Workers," which was very cordially received. Mr. Harold Baker, a prominent photographer in Birmingham, photographed her by the aid of the electric light. Altogether her stay there was most pleasant.

From Birmingham she went to York, making twenty exposures; then to Durham, then to Fountains Abbey in Ripon.

At Derby, on September 10th, she was splendidly received by the Derby Photographic Society, going on their outing to Melbourne. Richard Keene, of Derby, whose platinotypes were so much admired at the 1891 New York exhibition, accompanied her for two days on a special outing, and on another day Mr. Thomas Scotton, the official photographer of the Midland Railroad, took her to Haddon Hall, Matlock Bath and Wingfield Manor, where several exposures were made.

From Derby she went to London, spending two weeks in that interesting city. With a hand-camera she photographed street scenes in the poor quarter, and also made a trip down the Thames in a rowboat, photographing on the way. From London she went to South Wales and the Isle of Wight.

She expects to use up fifteen hundred plates before she returns, and is having those she exposed stored in London. She reports that every one wonders that she can restrain herself from developing some of her exposures; but she dare not begin. She is taking all possible precautions, and anticipates having very few failures.

Her intention is to write a series of articles, on her return home, of her experiences in England, to be illustrated by her own work. On September 22d she read a paper before the London and Provincial Society (see page 448) on "Photographic Limits." On September 28th, before the Photographic Club of London, she read a paper on "The Object of Photography."

BLACK FERRO-PRUSSIATE PRINTS.—Several processes have been indicated for converting blue prints made with iron salts, into black prints. Theoretically, these processes were excellent, but in practice the prints were mediocre and were wanting in clearness. Here is a new process that Mr. Paul Roy, professor at the Lyceum of Algiers, addressed to *Progrès Photographique*, which, the author of the article says, gives prints comparable to those made with the silver salts. Prepare a solution of

Borax, - - - - - - - - - - - - -	70 parts.
Water, - - - - - - - - - - - - - -	1,0C0 "

Add gradually sulphuric acid until litmus paper is slightly reddened, then remove the acidity by means of ammonia. Finally add to the solution obtained 10 parts of red catechu, and agitate occasionally until solution is complete. Immerse the plate in this bath for a minute at most, according to the desired tone, then wash in several waters. This bath, said Mr. Roy, keeps well for several months in an open vessel with a wide mouth.—*From Practical Photographer.*

UNITED STATES PHOTOGRAPHIC PATENTS.

Issued December, 1891 ; January, February, March, April, May, 1892.

December 29th, 1891.

466,150—Light-Casing for Stereopticons. Charles Beseler, Jersey City, N. J.

January 5th, 1892.

466,338—Photographic Camera. W. H. Fuller, Passaic, N. J.
466,534—Art of Preparing and Transferring Photographic and other Designs for Engraving. W. J. Charlton, Providence, R. I.

January 19th.

467,423—Photograph Gallery Wagon. T. J. Merritt, St. Louis, Mo.
467,454—Photographic Camera. J. T. Walker, Palmyra, N. Y.

January 26th.

467,600—Burnisher. L. A. Buchanan, St. Louis, Mo.
467,696—Flash-Light Burner. S. M. Williams, San Francisco, Cal.

February 9th.

468,456—Plate-Holder. W. H. Lewis, Huntington, N. Y.

February 23d.

469,244—Blue Printing Apparatus. P. Heinze, Chicago, Ill.

March 1st.

470,012—Method of Producing Photo-Mechanical Printing Plates. L. Shaefer, Heilbronn, Germany.
470,054—Photographic Roll-Holder. G. Jones, Rochester, N. Y.

March 15th.

470,783—Camera. A. B. Dobbs, New Haven, Conn.
470,907—Dissolving Mechanism for Magic Lanterns. P. A. Bradford, Oswego, Kan.

March 22d.

471,088—Photographic Shutter. F. A. Anthony, Hackensack, N. J., and W. H. Lewis, Huntington, N. Y.
471,186—Art of Producing Colored Photographs. J. W. McDonough, Chicago, Ill.
471,187—Art of Producing Colored Photographs. J. W. McDonough, Chicago, Ill.
471,305—Magic Picture. F. Tschofen, Vienna, Austria.
471,387—Photographic Album. J. R. Jones, Philadelphia, Pa.
471,392—Tripod. C. Mills, New York, N. Y.
471,469—Machine for Forming Flexible Photographic Films. G. Eastman, Rochester, N. Y.
471,512—Photographic Camera. J. H. Hare, Brooklyn, N. Y

March 29th.

471,584—Photographic Camera. G. Whitney, Winetka, Kan.
471,585—Photographic Camera. G. Whitney, Winetka, Kan.
471,586—Photographic Film Package. G. Whitney, Winetka, Kan.
471,675—Photographic Shutter. G. W. Low and W. Shakespeare, Jr., Kalamazoo, Mich.
471,715—Magazine for Cameras. M. B. Feeney, New York, N. Y.

April 5*th.*

472,196—Stereoscopic Album. J. H. McGrew, Chicago, Ill.
472,257—Photographic Camera. B. J. Edwards, London, England.
472,442—Magazine Camera. A. L'Eplattenier, Brooklyn, N. Y.
472,470—Album. J. Baum and J. Müller, Berlin, Germany.

April 12*th.*

472,702—Photographic Plate-Changing Apparatus. F. A. Fichtner, Dresden, Germany.
472,812—Art of Making Portraits or other Pictures. F. P. Y. De Mata, Havana, Cuba.
472,883—Photographic Shutter. F. R. Hoyt, Watkins, N. Y.
472,912—Magic Lantern Advertising Apparatus. W. G. Spiegel, New York, N. Y.

April 19*th.*

473,188—Photographic Shutter. G. F. Green, Kalamazoo, Mich.
473,356—Photographic Shutter. F. Servus, Berlin, Germany,
473,357—Support for Cameras or other Purposes. F. Servus, Berlin, Germany.
473,358—Photographic Camera. F. Servus, Berlin, Germany.
473,359—Plate-Holder. F. Servus, Berlin, Germany.
473,375—Coin-Operated Photographic Apparatus. W. H. C. Bernitt, Hamburg, Germany.

April 26*th.*

473,679—Coloring and Burnishing Composition. J. F. Thompson, Rockland, Mass.
473,753—Making Relief Plates by Photography. J. Husnik, Prague, Austria-Hungary.
473,767—Improving Oil Paintings by Photography. L. Meyer, Berlin, Germany.
473,814—Candle-Lamp for Use in Photographic Dark-Rooms. H. A. Benham and W. H. Tomson, London, England.

May 10*th.*

474,571—Photographic Plate-Holder. J. H. Ballman, St. Louis, Mo.
474,708—Solar Camera. J. F. Wiest, Huntington, Ind.

May 17*th.*

474,833—Photographic Kit. J. H. Iden, Bourbon, Ind.
474,850—Process of Producing Photographs on Hard Surfaces. A. Müller-Jacobs, New York, N. Y.
475,084—Camera. F. E. Ives, Philadelphia, Pa.

May 24*th.*

475,372—Process of Developing Photographic Pictures [Eikonogen]. M. Andérsen, Berlin, Germany,
475,654—Photographic Shutter. J. R. Albrecht and E. Ortmann, New York, N. Y.

May 31*st.*

475,919—Photographic Camera. R. de Barril, New York, N. Y.
476,041—Photographic Printing Frame. F. A. Daly, Lowell, Mass.

"Index Rerum Photographic," by Dr. John H. Janeway, U. S. A., continued from page 480, vol. iv.

which will be found hopelessly over-exposed. This may be remedied by capping the lens after a certain time and bodily removing them, or they may be enveloped carefully in a black or yellow material, care being taken in enveloping that no object behind it is obscured by its edges.

EQUIVALENT FOCUS—The true standard of comparison for double or multiple combination lenses is what is termed *equivalent focus, or the equivalent focal length*, viz.: that quantity or length which is equal to the *solar focus* (or the focus for parallel rays) of a thin single lens, such as a spectacle eye-lens. Hence the name equivalent focus. Since, however, the size of an image produced by any lens is always in exact proportion to its equivalent focus, the latter can be readily determined if the former is known, and *vice versa.* To judge then of the comparative focal length of any two lenses, we have only to place them side by side and compare the size of their respective images, both pointing to the same object. For example, a spectacle eye-lens has a solar focus of exactly 10 inches and the size of the image produced by some distant object measures 4 inches in height. The same object focused upon with a portrait lens measures 8 inches on the screen. Required the equivalent focus of the portrait lens; then, by simple proportion, as the size of the image of one is to that of the other so are their foci; or as 4 : 8 :: 10 : 20 inches the equivalent focus of the portrait lens. This is easy enough when comparing; but to arrive at the absolute equivalent focus of a given combination is somewhat more troublesome, and requires the possession of a single lens of solar focus which has been measured with great care. But there are readier modes for ascertaining the absolute equivalent focus of any combination, and this with sufficient accuracy for almost every purpose. Depending upon a law in optics, namely, that when the size of the image produced by a lens is exactly equal to that object, then the distance between the object and the focusing screens measures exactly four times the equivalent focus of the lens, proceed as follows: Take a flat piece of board with a piece of paper stretched upon it; place it before the camera and adjust it at right angles to the lens in two places, as is customary for copying pictures or maps; draw two lines at right angles to each other and see that the point of intersection coincides with the axis of the lens and the centre of the focusing screen. On each side of the centre of one of the lines measure and mark off with a pair of compasses a certain distance equal to about one-fourth of the base-line of the focusing screen. Now proceed as in copying for equal size or scale;

i. e., adjust the differences between the lens and the object and the lens and the screen until the mapped line on the screen, when ***sharply defined***, is exactly equal in length to that on the paper; the pair of compasses already used answers for this purpose. Now remove the lens and carefully measure the distance between the paper and the focusing screen, and one-fourth of this distance is the equivalent focus of the lens in question. Other means are used, such as focusing on distant objects, etc., but this way is as easy as any of them. The approximate ***optical centre*** of the lens can be determined at one and the same operation. For this purpose replace the lens, and without altering the arrangement, make a mark upon the mounting of the tube, exactly equal to one-half the distance between the paper and the focusing screen, measuring from the former. This point, marked upon the lens-tube, indicates the approximate optical centre of the combination, and is, in fact, the zero from which to calculate or to measure the distance of the object and the focusing screen, either in enlarging or reducing to a given scale.

EQUIVALENTS, METRIC—Mr. Jas. H. Stebbins, of the New York society, gives the following:

Weight Equivalents—To convert	grains into grams multiply by - - - -	0.065
" "	grams " grains " " - - - -	15.5
" "	drams " grams " " - - - -	3.9
" "	ounces (avoir.) into grams multiply by -	28.4
" "	pounds " " " " " -	453.6
Measure Equivalents—To convert	cubic centimetres into grains multiply by	15.5
" "	" " " drams " "	0.26
" "	" " " ounces (avoir.) multiply by - - - -	0.036
" "	pints into cubic centimetres multiply by -	473.
" "	litres " ounces (avoir.) " " -	35.3
" "	gallons into litres " " -	3.8

ERYTHROSIN—$C_{20}H_6I_4O_5K_2$. An alkaline salt of tetra-iodo-fluorescin, prepared by iodizing an aqueous or alcoholic solution of fluorescin. It is a brown powder; dissolves in water and with a red color, without fluorescing. Belongs to the eosin group, and was first pointed out by Mallman & Scolik as a valuable sensitizer for gelatine-bromide plates. By many it is regarded as the most useful sensitizer for general purposes. Like the other dyes, it is either introduced into the emulsion, or the dried plate is bathed in an aqueous or ammoniacal solution. By some it is claimed that plates treated by the latter method are at least three or four times as sensitive as those in which the dye is added to the emulsion. The following formulæ will be found of service in preparing erythrosin-bathed plates: Soak the plates for two or three minutes in a 1 per cent. solution of ammonia, and then for two minutes in erythrosin solution (1:1,000), 1 part. Ammonia solution (1:10), 1 part; water, 8 parts. Allow the plates to drain with their lower edge on blotting-paper, and dry in the dark. If kept in a dark, dry closet they will remain good for some weeks, and can be developed with any of the various forms of alkaline pyro developers. Protect the plate as much as possible from direct light, even of the lantern. Plates of medium rapidity should only be used as their sensitiveness is increased (about three times), and the more rapid plates are liable to fog. The above bath increases the sensitiveness of the plates to yellow, etc., but do not greatly reduce the sensitiveness to blue and violet; hence, in order to obtain correct gradations, it is essential to interpose a transparent yellow screen between the object and the plate. This must be done in such a way as not to disturb the working of the lens or interfere with the sharpness of the image. A thin glass plate with perfectly parallel faces may be used behind the lens, or a film of dyed collodion may be used glued to the diaphragm of the lens. Cover-glasses used for microscopic slides are also recommended. Aurantia or Manchester yellow, both of which are coal-tar dyes, may be used. The depth of tint of the screen is a matter of the greatest importance, since it materially modifies the result by cutting off a greater or less proportion of the blue and violet. For general work the screen should be yellow and not orange, and the tint must not be too deep, otherwise too great a proportion of blue and violet is cut off and the gradations are rendered incorrect in the opposite direction. A full lemon-color is the most suitable. The exposure required when the screen is used will be from two to three times that required for the same plate used in the ordinary way without treatment with the dye. The deeper the tint of the screen the longer, of course, the exposure required. It is said that in copying paintings at night with kerosene light that the screen is not necessary. Of that I am unable to say. Dr. Eder states that erythrosin plates become much more sensitive if they are immersed in a very dilute silver nitrate. In this case an erythrosin compound of silver is formed, which acts as a chemical sensitizer. They are, consequently, not only more sensitive generally, but also more specially sensitive to yellow light. These plates can be used without a yellow screen. The silver solution must be very much diluted, otherwise they will fog. The best strength is from 0.05 to 0.1 per cent. of silver nitrate to a mixture of equal parts of alcohol and water. The plates dry rapidly, but only keep in good condition for a very short time.

ERYTHROSIN SILVER PLATES can be prepared by bathing ordinary plates in the following bath of erythrosin and ammonia nitrate of silver: Distilled water, 480 cubic centimetres (14 ounces 1½ drams); nitrate of silver, 1.25 grams (20 grains); ammonia carbonate, 5 grams (11 drams 11 grains); erythrosin solution (1:500), 35 cubic centimetres (1 ounce 2 drams); ammonia, 4 cubic centimetres (1 dram 8 minims). Other operations like the ordinary bath.

ETCHING—The original method was to cover a plate of metal or glass with varnish or some other substance capable of resisting the action of acids, and this was scored or scratched with a needle or similar instrument, so as to form the drawing. The plate was then immersed into the acid bath, which attacked and corroded the metal in the lines left bare by the instrument used. When the action of the acids had progressed deep enough, the plate was washed and denuded of the varnish or covering substance, dried, inked and placed in the press. Until recently the method of illustration of books did not keep up with the improvements made in printing the same. Engravings from copper or steel or of lithographs were restricted to short and expensive editions, and wood-engravings, except for high-class issues, were crude. The introduction of the zinc-etching process, in which the picture is first drawn in line and stipple or chalk upon lithographic transfer paper, then transferred to a plate of zinc and subjected to a process of etching in various baths of acid water, marked a new era full with great improvements in cheapness, facility of production and artistic results. But this new process had hardly come into good working order before it was seen that great advantages might be had by enlisting photography in its service, and especially in the expense required in reducing the design to the same size of the finished block. In photography the lens does that, and at the same time preserves the proportions and smoothes down any crudity in the drawing. The first methods of producing a photo-transfer were by making a negative from the original; then a print upon paper coated with bichromatized gelatine was made, the wet print inked by a roller, the exposed portion of the gelatine taking the ink, whilst the non-exposed, owing to its being charged with water, rejecting it, the result being a replica of the original in fatty ink. This was transferred to zinc and etched in relief. Such a process was far from perfect, and not suitable for subjects which necessarily should be to scale. So the next improvement was to place a plain mirror between the lens and sensitive plate, producing a negative in its proper position as regards right and left; then from this reversed negative a print in fatty ink could be made direct on zinc. These direct prints on zinc are restricted entirely to what are termed "subjects in line," such as plans, architectural drawings, wood-cuts, etc. The effect of half-tones, or the smooth, delicate gradations of a photograph, are not permissible in relief blocks of this kind. The next step taken in these interesting series of processes was the perfecting of the various methods, published first in 1854 by Fox Talbot, by which the mechanically breaking up the half-tones of a photograph was produced, thereby allowing a photograph in all its delicacy to be used to illustrate a letter-press article. Zinc and copper have generally been the methods used for these processes (being previously coated with sensitized albumen or bitumen printed upon and etched in the usual way by the aid of acids). A new process of electro-chemical etching has been recently announced as adapted to metals having a much harder composition than zinc even. As is well known, it has been almost impossible to etch the harder metals with clean-cut lines, but it is claimed that by this method this difficulty is entirely obviated. The metal surface can be either flat or curved, carefully polished, and the transfer made in the usual manner, dusted with powdered resin, the surplus powder removed, and the adhering powder to the lines of the transfer is melted by the heat of a Bunsen burner. The back of the plate is then coated with asphaltum, and it is immersed in the etching fluid, held in a strong earthen jar. The plate serves as one electrode, and for the other a carbon plate arranged parallel to and facing the surface of the metal. If 200 amperes are turned on from a dynamo, the current is complete, and the etching is quickly and successfully completed with sharp, clean lines. Dr. Armand Müler-Jacobs has announced and patented a process of etching on glass which bids fair to open a new and beautiful field for house-decoration. Every one knows the almost impossibility of protecting the film from the corrosive action of hydrofluoric acid. The doctor makes use of colored metal resinates, sensitive to light, etc., in his process.

ETHER (sulphuric ether)—$C_4H_{10}O = 74$; specific gravities from .720 to .736, and boils at 94° F. Prepared on a large scale by distilling alcohol with sulphuric acid. It is a transparent, colorless and very mobile liquid, having a fragrant and exhilarating smell. Mixes readily with alcohol, but scarcely at all with water. Dissolves fats and resins, bromine and iodine, and most metallic bromides and iodides. It is dangerous to bring a light near an unstoppered bottle containing it, owing to its boiling-point being so low and its rapid vaporization. By exposure to light, pure ether becomes acid ; it should therefore be kept in a cool, dark place. Its acidity may be detected by shaking it up with an aqueous solution of iodide of potassium, giving a yellow color. When adulterated with water, turbidity is produced ; by adding a little spirits of turpentine (or wood-spirits is sometimes used) the adulteration is detected by its smell, or by discharging the color produced, by the addition of one drop of tincture of iodine to an ounce of ether, in a few hours. Its low specific gravity is its best test of purity.

ETHER METHYLATED—Made by distilling methylated spirit with sulphuric acid. Its odor is stronger and more disagreeable than pure ether, and it more easily disorganizes the neutral silver bath. It is largely used in England, being much cheaper than the pure ether.

ETHER METHYLIC—$C_2H_4O=46$. Known also as methyl oxide. Although it is composed of the same elements, in the same proportion, as alcohol, yet its properties are very different. Chemists explain this fact by believing that the atoms which form its molecules are differently arranged. Prepared by distilling one part of methyl alcohol (or pyroxylic spirit, CH_4O) with four parts of oil of vitriol, and purifying the distillate with slaked lime. It is a colorless gas, very soluble in water and still more so in alcohol and ether. It burns with a pale flame.

ETHER-OXYGEN—LIME-LIGHT, THE—The vapor of sulphuric ether has been found to give as good results as coal-gas in the production of the lime-light. Various methods were employed to render it safe, etc., but for some time unsatisfactorily. Mr. F. E. Ives at last succeeded. He uses instead of the wash-bottle a chamber packed with a porous material which is saturated with liquid ether, and so arranged that the oxygen was charged with vapor without bubbling through the liquid. He claims that with this saturator the oxygen can be perfectly saturated with ether, and is then absolutely non-explosive, and the light perfectly steady.

EVIDENCE, PHOTOGRAPHY IN—During the last two or three years photography has played a very important point in courts of law ; and the story the lens tells is becoming of great importance in the suits for damages that are constantly being brought against corporations not only in this country, but also abroad.

EXCELLENCE, TECHNICAL—Unfortunately it has been a sort of fashion amongst some writers on photography to speak in an almost con-

(To be continued.)

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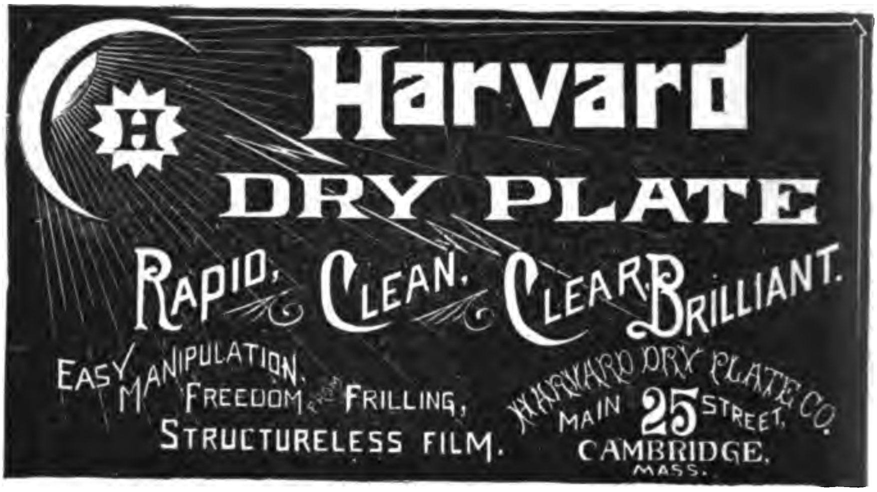

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[illegible] of [illegible]

[illegible] the [illegible] may identify [illegible] of steel. [illegible] to dissolve [illegible], then [illegible] following [illegible]

[illegible] crystals, [illegible]

[illegible] above formula [illegible] stock [illegible] powerful [illegible] must be diluted by three [illegible]. Half an ounce of the above is added to one and

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The Amidol Developer.

BY F. C. BEACH.

A FEW experiments conducted with this new developing agent demonstrates that it is to have an important place in the many developing chemicals now before the public, and to possess some peculiarities that may identify it with the wet-plate developer.

A sample ounce of the chemical was sent to me from England. I found it to resemble somewhat hydroquinone crystals in shape, but darker, similar to the color of steel. The directions sent with the package explained that it was advisable to dissolve the sodium sulphite first, then the amidol. Accordingly the following proportions were carried out:

Water,	8 ounces.
Sodium sulphite (crystals), Merck's C. P.,	800 grains.
Amidol,	80 grains.

The water used was from an artesian well. The above forms the stock solution, and is too powerful ordinarily. It must be diluted by three times its bulk with water. Half an ounce of the above is added to one and a half ounces of water to form a normal developer. When freshly mixed it is colorless, like water, and gradually becomes yellow, and later a dark yellow. The first batch of stock solution that was mixed became milky and turbid after an hour, and in the course of five hours quite a precipitate settled at the bottom of the graduate, which was dried on blotting-paper and had the color of steel. This precipitate did not seem to weaken the developing power of the developer; but it was not what one would expect. I am convinced it must have been due to the water, which probably contained some lime. However, the developer mixed as described was poured over an 11 x 14 sheet of Eastman's slow bromide paper, which had been liberally exposed to daylight behind a cardboard drawing, and to the astonishment of all, developed up in about five seconds to full density. The blacks were of a delicate, velvety color, while the whites were remarkably clear and free from any sort of a veil or stain. Sheet after sheet was rapidly developed in the same solution (eight ounces) until the eighth or ninth, when it began to work slower and the blacks were not as brilliant. But a dozen good bromide prints of 11 x 14 were obtained with only twenty grains of amidol. It apparently made no difference whether a long or short exposure had been given; the development began as rapidly and acted uniformly on every portion of the film that had been exposed to the light.

Desiring to secure, if possible, a solution that would show no precipitate, a second batch of the stock solution was prepared as above with the exception that distilled water was substituted for the artesian well water. An absolutely colorless solution was the result. There was no precipitate, and after standing in a graduate covered by a sheet of glass for twenty-four hours, the color became a faint yellow, which became slightly deeper in two or three days. The experiment showed conclusively that rain or distilled water should be used. With six grains of amidol in this distilled-water developer, I developed in a short time one dozen 3¼ x 4 films, one after the other (time and shutter exposures), and obtained very clear negatives, even though in some cases the film was in the developer for twenty minutes. I next tried a fresh solution, of similar strength to the foregoing, on two Cramer isochromatic rapid plates, having had quick shutter exposures. After pouring on the developer, the image rapidly appeared in three or four seconds, and in three minutes the negative had reached ample density and was done. A second plate came up nearly as rapid; both were excellent, clear negatives. The solution, after development, was saved. It was clear (with the exception of particles of film that had become detached during development), and was used the next day in developing half a dozen 4 x 5 bromide prints.

The marked difference amidol has over other developing agents is that it is quite soluble in cold water, can only be used with neutral sodium sulphite, in place of an alkali, and refuses to develop in an alkaline solution.

It is distinctly an acid-developing agent, and when rightly understood will be a great help in the production of line negatives and lantern-slides. To test the developing power of amidol by itself, a solution was made by dissolving twenty grains in four ounces of water. This was poured on by a properly timed plate and kept on for over five minutes. In that time no trace of an image appeared. Next ten grains of carbonate of potash were added and the development continued for three or four minutes more, but still no sign of an image appeared. The potash turned the solution from a colorless one to a deep handsome red. Having no sulphite of soda at hand, the experiment was not carried further.

At another time a separate solution of chemically pure neutral sodium sulphite in distilled water was made (strength 100 grains to the ounce), also a separate solution of amidol (twenty grains to two ounces of distilled water, equivalent to ten grains to the ounce). One-half of the amidol was taken (one ounce), to which was added half an ounce of distilled water. The ounce and a half pure amidol developer was then poured over a shutter-exposed isochromatic plate; after five minutes no trace of an image appeared. Testing the solution with blue litmus paper showed that it was acid. Next the experiment of adding to this apparently inert developer, a dram at a time, and by half-drams, the sodium sulphite solution mentioned above, was undertaken. First a dram was added after three minutes; there was no sign of an image. Then two half-drams went in; soon the image began to appear —developed out slowly, similar to plates in eikonogen weak in an alkali. The negative had good density and was finished in six or eight minutes. The solution was now tested with blue litmus paper and showed an acid reaction, though not as strong as before the sulphite was added. Thus it was found that twenty-five grains of sodium sulphite to seven grains of amidol are necessary to set up a developing action, and that the addition of so much more (100 grains of sulphite to ten of amidol, as given in the formula) accounts for the rapidity with which a slightly diluted solution of that kind acts. The sodium sulphite may be regarded as the accelerator in the amidol developer—the same as the alkali carbonate of potash or ammonia is in the eiko or pyro developer. With the ounce and three-quarters of solution five 4 x 5 and two lantern-slide plates were developed, all being of extreme brilliancy and clearness; the high-lights of the slides were clear glass. The color of the developer was light yellow. On testing the standard solution (100 grains of sulphite to 10 of amidol) with blue litmus paper there was apparently no change, showing, we think, that it requires that amount of sulphite to counterbalance the acidity of the amidol.

The other portion of the plain amidol solution changed very soon—in three-quarters of an hour—from being colorless to a deep red, but kept clear. At this writing it has not been tested as to its developing power when compared with a fresh solution, but it is likely that it will be as effective.

Amidol is very nearly as soluble in distilled water as pyro; hence it may be advisable to keep it in its crystal state until ready to use, then to mix up a small quantity and add gradually enough sodium sulphite (which may be kept in a stock solution) to produce a developing action. By varying the proportions of the two, rapidity of development is to be regulated as well as the density of the image, while the tendency of the developer to veil the unacted-upon portions of the film, during prolonged development, is reduced to a minimum, and whether overtimed or undertimed, plates will come out always clear and brilliant. No bromide need be added if the proportion of sodium sulphite is lessened.

It will seem strange to many to consider sulphite as an accelerator in this developer, when heretofore it has been regarded as a retarder; but when its action has been so clearly demonstrated, as outlined in the foregoing described experiments, there is no doubt about its function. Besides being an accelerator it also serves to retard the supposed oxidation of the amidol.

Since the foregoing was written my attention has been called to the English patent just issued to Julius Hauff, Feuerbach, near Stuttgart, Germany, dated September 17, 1892, No. 14,542, for improved combined substances for the development of photographic images; the text of which, as found in the *British Journal of Photography*, is as follows:

In completing experiments with the series of the diamido compounds of phenol and cresols, for the purpose of testing their utility in the development of photographs on halogen-gelatino silver plates and on halogen-gelatino silver paper, it has been found that, besides the o-p-diamido-phenol, the o-p-diamido-o-cresol and o-p-diamido-metacresol can be used as a developing means in the same manner as the first-mentioned compound. Likewise can these two new developing substances bring out the latent image in combination with sulphites of the alkalies, or sulphite of ammonium, without the presence of free alkalies, or of carbonates of the alkalies, while, in the same manner as for diamido-phenol, their developing power exceeds that of the other developing means.

As an example, I may use—

100 cub. cent. of water.
0.5 gramme of diamido-cresol.
5 grammes of the crystallized sulphite of an alkali.

It may be remarked that, by increasing the addition of the sulphite, the reducing power is likewise increased, while this power can be decreased by the addition of acids (preferably of sulphurous acids), or of bromides or chlorides of the alkalies, so that the manner of using the developing substance for more or less exposed plates becomes obvious. Instead of neutral sulphites, acid sulphite may be used when, at the same time, all or only a portion of the free acid is neutralized by means of carbonates or bicarbonates, the recipe being thus capable of generalization.

Having now particularly described and ascertained the nature of this invention, and in what manner the same is to be performed, I declare that what I claim is: The employment of o-p-diamido-o-cresol and of o-p-diamido-m-cresol, in combination with soluble sulphites (such as sulphite of soda, sulphite of potash, sulphite of ammonium, sulphite of lithium), for developing photographic images on layers containing halogen silver.

The addition of sulphurous acid would probably be beneficial, as it would aid in preserving the developer, when standing, from oxidization and keep it clear for a long time. The use of acid sulphites, it seems, is also allowable. The description in the patent curiously confirms the experiments I have mentioned as to the accelerating action of the sodium sulphite, and it may be possible by different modifications or additions to secure different colors or tones to negatives or positives.

Hints for Kodak Workers.

BY HOWARD PARK DAWSON.

IN working with a kodak, or, in fact, any camera, we should make it a rule never to take a picture unless there is something worthy of being taken, and then to make our exposure only under the most favorable conditions of light, shadows, etc. Many amateurs,' "to finish the roll," or because they wish to take a large number of views, shoot haphazard, without taking any note of the surroundings, and it is from these shots that a large percentage of their failures come. Another good rule is never to make an instantaneous exposure when you can possibly make a time one. If the users of kodaks will follow these two simple rules they will be surprised at the decrease of their failures.

Now a word on development. Decide on a good developer and stick to it. Remember you must get detail first, then density. Begin with a weak developer and gradually strengthen it. For normal exposures I use "rodinal," diluted with forty parts of water, increasing the strength till I have about one part of rodinal to thirty of water. It is better to have fresh developer for every exposure. Don't, on any account, develop too many pictures in one batch of developer and risk spoiling good views. Never try to develop so many exposures in an evening that you will have to hurry the last few. Each picture needs care and attention.

In printing use a gelatine aristotype paper. Print several shades darker than you wish the finished print. Do not use the combined toning and fixing bath. With this bath you will get yellow whites, and there is no certainty of complete fixation; therefore the prints are apt to fade. If you wish permanent results tone and fix separately. Wash your prints, before toning, in several changes of water, till the water does not have a milky appearance. Then tone with any good bath; it must be neutral or slightly alkaline. A good bath for purple tones is:

Bicarbonate soda,	12 grains.
Acetate soda,	12 grains.
Water,	7 ounces.

To this add 1 ounce of a solution made by dissolving 15 grains chloride of gold in 15 ounces of water. As each print reaches the desired tone place in a tray of clear water. When all the pictures are toned wash in one or two changes of water and fix for fifteen to twenty minutes in the following bath:

Hyposulphite soda,	1 ounce.
Water,	4 ounces.

Now wash thoroughly. You cannot be too careful on this point. When washed squeeze in contact with a ferrotype plate. The print will peel off with a beautiful polish when dry. Mount dry, using a starch paste. Use as little paste as possible. Then place the pictures under pressure till they are thoroughly dry.

Why are Stereoscopic Prints Transposed?

A CORRESPONDENT asks this question of the *Scientific American*. This problem, although very simple, is somewhat puzzling. The stereoscopic prints are transposed to bring them into the position the object occupies when seen with the eyes. The two pictures numbered one and two represent the view as seen with the two eyes, the one marked "L" showing the view as it appears to the left eye, and the one marked "R" showing the view as it appears to the right eye. Each tube of the stereoscopic camera inverts its own view; therefore, when these pictures are turned a half revolution in their own planes, as shown in the second engraving, they represent the image formed in the camera, and consequently the negative as seen from the glass side, also the print from the negative.

By placing this double picture right side up, it will be seen that the images have been transposed in the camera in being inverted, and, as the letters L and R now adjoin each other, the left-hand view appears in front of the right eye, while the right-hand view appears in front of the left eye, as shown in Fig. 2. It is, therefore, obvious that to place these two pictures in position to correctly represent the views as seen by the eyes, they must be cut apart and transposed, when they will appear as in the first engraving.—*Scientific American.*

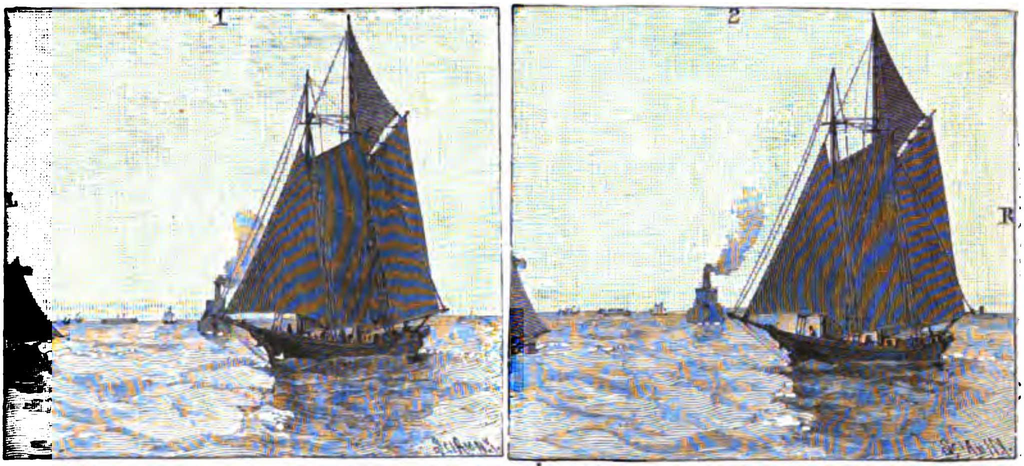

FIG. 1. The View as Seen by the Eyes.

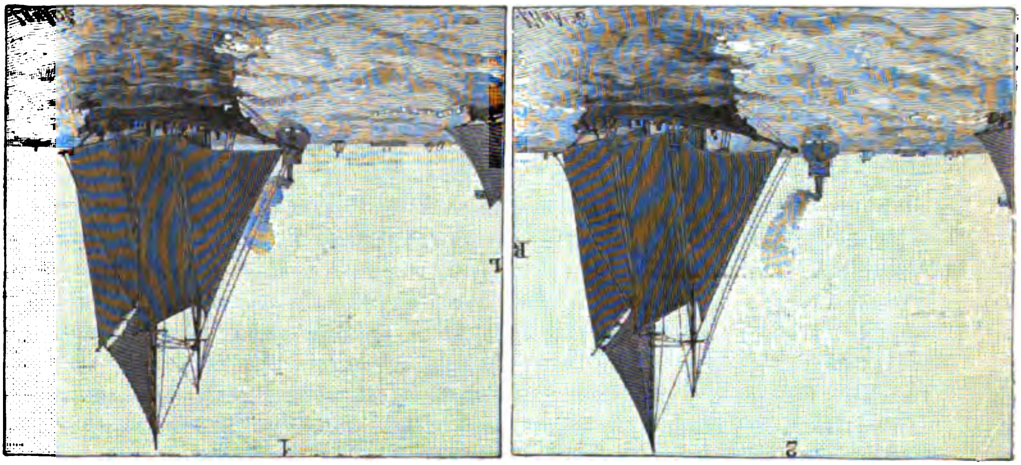

FIG. 2. The Inverted Images as they Appear in the Camera and Negative.

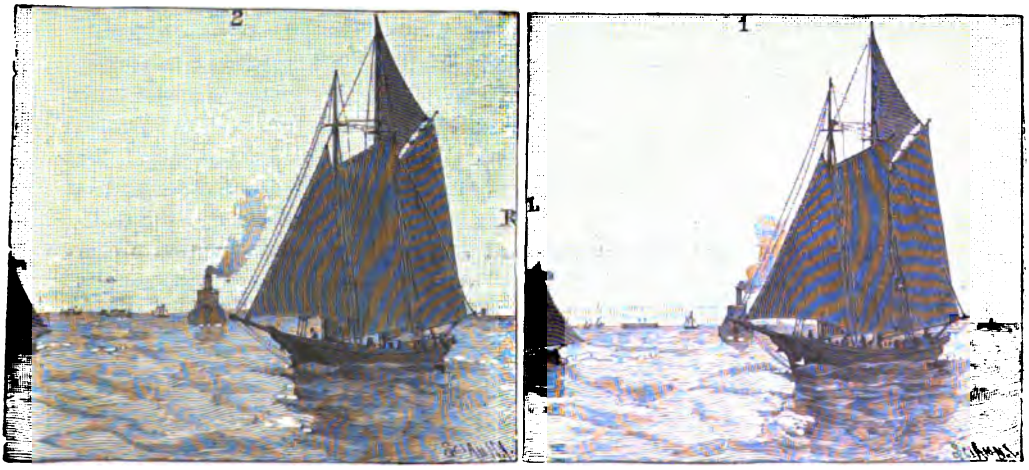

FIG. 3. Transposed Prints.

*The Object of Photography.

BY CATHARINE WEED BARNES.

HAVING been asked to open the discussion to-night, the above subject has been selected as being important, and as permitting considerable difference of opinion. Let me indicate at once the broad, liberal lines on which it seems to me the discussion should be pursued. As long as human beings are not created free and equal, although a certain well-known document says so, they will differ materially in their objects and their pursuit of them. Especially is this true of mental processes, among which, I claim, photography holds no mean place. The object which each worker has in view may, and often does, differ widely from that which he should pursue in order to obtain the greatest possible benefit, and in thus striking the keynote of my paper, I hope to point out in some degree the ideal all camerists should keep in sight. We all know the great moral axiom that we best help ourselves by helping others ; indeed, it cannot be otherwise, and this help can be given in many ways, only seen by those whose minds are trained to receptivity of all progressive movements. The human mind is an organ, a function, an intangible, incomprehensible force — what you will ; but it is great or small not only according to the impulse behind it, but the use we make of it. We may look at photography through a narrow or wide angle lens, through the telescope or ordinary view. There is plenty of choice ; all depends on the will of the individual worker. Those who are able to learn by everything teachable in the realms of mind and matter will find that in photography these two forces join hands with greater or less energy according to the object of each worker. Those will gain the most whose ideal is the highest, and, as in union there is strength, so photographic workers accomplish most when organized into societies, provided the standard is held high over men's heads and never lowered from fear of criticism, for any purely personal or selfish motive. What if any individual worker should come more prominently than any other into the brilliant electric light of public opinion or approbation ? Is that a reason for discouragement or lowering one's own flag ? Rather should it be an impetus forward on the principle of the fairy in one of Jean Ingelow's stories. "Don't you know," she said, "that in Fairyland what you can do you may do ?" The trouble is, we carry on the fight somewhat on the free-lance principle, and "each one for himself" does not advance the general standard of progress. If individual preference be on the high plane of real altruism, well and good ; but, usually, the ordinary human being is more exercised in raising his own special average than the general one of humanity.

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* Read before the Photographic Club, London, September 28, 1892.

Let us consider, then, what photography can do to elevate this general average. If nothing, it is worthless; but it can do much and it is worthy of thoughtful consideration.

The adage that "Beauty is its own excuse for being" does not entirely cover photography. The latter adds to the cultivation of the beautiful, and that of the useful. Thousands of feet below the earth's surface, as regards land and sea, has the keen eye of the lens revealed to us once-hidden mysteries, and beyond the systems of worlds heretofore unknown has it opened limitless possibilities. What other art or science can claim so much? In the astronomical equipment of Harvard University, near Boston, is being set up the largest photographic lens ever made, to be electrically controlled in correspondence to the motion of the earth. The lens has a twenty-four inch aperture, and will be used on a fourteen by seventeen plate. The time is fast approaching when photography will be utilized in all the countless ramifications of human knowledge, and there is no use in artists or scientists denying what will soon be an undeniable fact. Even on the lowest plane of merely personal help to each individual worker, photography is a pursuit embodying in itself broad scope for cultivating the powers of the keenest brain. Much more is this increased when we take into consideration our fellow-workers. Every thought which finds effect in word or act is a stone dropped into the stream of human life, whose widening circles touch and influence countless others.

Speaking of the individual worker, what is and what should be his object in this work? We know they are not always the same thing. He begins, we will say, because it is suggested to him as an amusement, and many never get any further. They can be left out of the question; but to those who once begin to make a study of the work and find it broaden into one field after another, filling one's utmost limit of mental effort, the interest grows more absorbing as they realize that, however great may be their progress, they will never know all that is to be known. The object which at first is pleasure only in the sense of recreation, becomes then something far nobler as a powerful factor in training—what we speak of so often, and comprehend so incompletely—the human intellect.

If we accept the object of photography as being a mental education, how can it best benefit us? In every study those gain most who come equipped for work by natural or acquired gifts. Perhaps no one faculty in photography is more quickly called into exercise, or more rapidly improves, than that of observation. As this grows keener, the eyes stimulate the brain to act, and in landscape work alone, a fuller, richer appreciation is daily given to the world of nature. The shortest journey shows us what we might otherwise pass by unheeding, and extended travel sends us home benefited by a wealth of experience which many of our fellow-travelers lose. We do not need to go on land and sea for such; often near our own doors we learn to see a constantly varying panorama of change. I do not believe that in any more efficient way can we be helped than by aiding this very faculty of observation, especially in the young, when it can be made a fixed habit.

Passing from the world of nature to that of man, we find that, although we are usually gifted with the same physical organs and general appearance, that such are capable of infinite variety when looked at from different standpoints. In portraiture the object should be to truthfully and kindly represent the sitter's best aspect. We have in this to struggle against preconceived prejudices, as people always think they know for themselves what the old woman called her "congregation side," and it is well occasionally to see ourselves with others' eyes. Once in a portrait gallery I heard a lady say, looking at her proof, "I don't like it at all, but it looks just like me." Another time the photographer said to me, "There's Mr. A.— has been here four times this week to sit, and yet is not satisfied." Do we all know our best side? Every portrait photographer who properly knows his business, understands that the first grand requisite of success is to make the sitter feel at ease under far different circumstances from his usual ones. It would be well if this was more carefully considered and made a more striking feature in our studios, but it draws heavily on one's nerve force, and necessitates more of a strain than most operators are willing to endure, unless really in love with their work, which the majority are not. I have had occasion to see a good deal of the inside of a professional studio, and a day's observation of the different sitters gives an entertaining study of human nature. I have often thought it would pay to have a regular adviser or art director in the studio to advise sitters—men and women; for one is no wiser than the other, what to wear and how to wear it to obtain an effective picture. If the operator attempts this, he too often meets a sharp rebuff. The amateur, if he be willing to use time and patience, has often a great advantage over the professional in respect to this question of being at ease, as his work is done usually amid familiar surroundings. I undertook once to photograph an old artist friend, who would not assume any but the stiffest possible pose of the shoulders, until I placed a palette and brushes in his hand, when his whole attitude became at once perfectly easy, because natural. Figure studies, to one who has a taste for them, are the most fascinating, and, at the same time, most trying and difficult branch of photography. There is always something to learn in it, and its difficulty is, to me, its greatest charm. What is easy presents no attractions.

Every worker is more or less influenced by others; therefore he best utilizes his own efforts, and in his turn exerts influence, by joining, as before suggested, a photographic society. The ideal one has yet to be invented or evolved, as the tribes of men increase in not merely technical knowledge, but common sense. As at present constituted, they form, in the main, excellent schools as regards practice for those workers already somewhat proficient, but should do more for the beginner than is the case. As managed here and in America, they vary greatly, and each might gain by adopting some of the others' methods. I differ from my compatriot, Dr. Mitchell, in his advocacy of the club system, believing in the work as a mental education, not as a mental recreation. One point generally lost sight of in such organizations, as soon as they become prosperous, is the great law of majorities—the greatest good of the greatest number. Few human beings are capable of self-abnegation under such circumstances, and when they are it is often to meet criticism, if not opposition, on the part of those less disinterested than themselves. The true worker should, however, like the Alpine climber on the glacier, be so busy in cutting steps for his feet that he cannot watch the progress of others, but must attend to his own. When comparative success is gained, then comes the danger common to success, believing the summit has been reached, than which there is no more fatal delusion. It is possible, in tracing out the various bypaths of photography, to make the pursuit in large measure a liberal education, and the widest culture can be used advantageously. I believe in a sound technical training in optics, chemistry and mechanics, an elementary, if no more, art training, and a wide reading of the best general literature. Here is where so many photographers—more professionals, perhaps, than amateurs—fail to realize the importance of cultivated intelligence in what claims, and rightly so, to be ranked among the fine arts. One should also make a point of keeping in touch with all that is being said and done through the various photographic journals in different countries, not work on blindly in one's own little special pathway.

If the object of photography is to educate, that means liberalize, and for this a thousand ways are opened through literature, science and art. Decrying the increase of illustrations by photography as injuring wood-engraving, for instance, is like the rebellion of handwork against machinery. The world does move if people will act as did some Indians once on the American prairies who attempted to stop a train by holding a long leather lariat across the track. The Indians suffered, not the train. Photography is a most important adjunct in nearly all mental studies, and will become more so as its facilities for work increase. Let each one, therefore, follow out his or her own salvation, grateful for criticism or praise, whichever best aids in keeping high the standard already indicated. Lenses, cameras, instruments of all kinds are only means to an end; discussions upon them and upon methods of work are only valuable as they conduce to the further elevation of photography itself.

I feel strongly on this subject, believing firmly that photography can be of such incalculable benefit to all who pursue it with singleness of purpose, or with a desire to help others. In this connection let me heartily indorse and offer hearty co-operation to the affiliation scheme recently proposed by the Cheltenham Society. It is a move in the right direction, and deserves the indorsement of similar organizations, wherever located. While not criticising those who look at the object of photography from a different standpoint than my own, I merely place myself on record as regarding photography in the light of a vital, educational force; a responsibility, and not a plaything; a power which can be used in so many ways when seriously considered that I cannot but feel it a privilege to be numbered among its adherents. Time and conscience prevent my wearying you with a longer paper, and yet I feel the subject has been very inadequately treated, my only consolation being that, in presenting it to you, I am enabled to emphasize my strong interest in the work to which my time and energies are devoted.

MISS BARNES AT WORK

MISS BARNES' RETURN.—Arriving in New York by the steamer "City of New York" on November 3d, belated one day by foggy weather, Miss Barnes appeared very much improved in health, and none the worse for the trip. Her pleasant experiences with, and cordial greeting by, English photographers and manufacturers appear to be one of the features of her Summer outing, and remain fresh in her memory. She brought with her many hundreds of exposed plates and novelties in cameras and photographs. She will contribute several illustrated articles and sketches of travels during the coming months, which, we are sure, will interest our readers. The picture we present shows Miss Barnes at work; it was made with the Miall hand-camera. The block was kindly loaned by the London *Amateur Photographer*.

The Hand-Camera Without a Finder.

BY W. E. PARTRIDGE.

THE finder of the ordinary hand-camera is not an alarming success. Too often the mirror is set by a cross-eyed man, or by one who is too mentally oblique to make his workmanship honest. The result of this is found in the pictures of buildings with lines in all directions save horizontal and vertical. The landscape with its single figure calmly moving down some path—a veritable leaning tower of Pisa out for a walk—is so common that no explanation is needed. Groups are taken with the marginal figures left out, and central figures off to one side apparently looking for them.

It is in vain that one strains one's eyes looking into the finder in the blaze of a noonday sun. Every one within a block knows what you are doing. Even in a district where the camera is unknown such a pose would excite curiosity and arouse suspicion.

The small finder is a nuisance, and the large finder has been patented by some one who does not make cameras and who does not seem to know how to put his invention on the market. This, I am inclined to think, is not so unfortunate for the public as it seems. My experience for the last month with the Lilliput hand-camera has been to me quite a novelty, and so far as the use of a finder is concerned it is a revelation. This camera has a fixed focus, uses a plate 2½ inches square and is without a finder. My feelings, when I snapped the shutter the first time, must have been very much those of the man who bought the proverbial "pig in a poke." The plates were small and cheap, the box was light, and as it was wrapped to simulate a rather disreputable lunch-box, it attracted no attention whatever, especially as it was not necessary to be gazing down at any finder image. I snapped it off in the midst of the Jews' quarter in this city when the streets were crowded, and did not have a single person turn to look at me. When the first plates were developed they were taken to the light to be examined as soon as possible. I could hardly believe when I found one or two old houses as correctly centred as though I had had a finder. Groups came up in the same way. At first there were some pictures a little out of square. Now and then a little carelessness would show the effect of tilting the camera forward or backward. Of the three or four dozen negatives made I can say that only one or two show the lack of the finder. In one case instead of a group on the sidewalk I found the cornice and upper story of a tenement house. In another case I got too near, and the figure filled the whole plate. These faults would have been seen with a finder. But the average was quite as good as I ever made upon an equal number of plates in a camera provided with a finder.

We may state the case thus: With a strange lens, a new camera. a smaller plate than I had ever used before, and consequently a different focus, I made several dozen negatives and made no more mistakes in grouping and centring objects than I would have made with a 4 x 5 hand-camera provided with a finder. I find several gentlemen of my acquaintance who are using cameras, who habitually dispense with the finder and depend entirely upon the range lines which they draw on the top of the instrument.

After a week's use of the instrument I drew upon the top two diverging lines which embraced the exact angle of the lens. By means of these lines it is possible to determine with great accuracy the precise field of view. I propose trying the use of such lines upon a tripod camera, and thus be able to dispense with the use of the ground-glass.

These range or finder lines should embrace the exact angle of the plate with the given lens. They should meet in the plane of the ground-glass on the top of the camera and should extend forward to the front of the lens. They then form a view meter, and in this way take the place of a finder.

There are some advantages in looking at the object instead of at its image. It is easier to judge the instant at which the exposure will produce the best result. Looking at the object attracts less attention than peering attentively into a box, and at the same time posing like a rabbit's head. One is in less danger of meeting accidents. But the advantage of using the picture of the right size and directly is one of the most important advantages. The quality of a picture cannot be correctly judged from an image on a reduced scale. The greater the reduction the greater the difficulty of estimating the values.

I ought to add that the small negatives make very pretty lantern-slides by direct printing, or printing in the camera. The focus, though apparently very short, is by no means wide angle, and the pictures when enlarged are not distorted.

Amidol.

Mr. F. C. Beach, Editor AMERICAN AMATEUR PHOTOGRAPHER :

SIR—The product you sent for analysis is a diamidophenol—or, by abbreviation, *amidol*—having the following constitution :

$$C_6H_3 \left| \begin{matrix} OH \\ (NH_2)2. \end{matrix} \right.$$

Examined by the microscope, I found it identical to the samples sent to me from Paris two months ago.

It forms a developing solution, having an energetic reducing action, and possesses properties not to be found in the other compounds we use for the same purpose. The presence of the neutral sodium sulphite is sufficient to develop the latent image ; but my experiments lead me to conclude that with an alkaline carbonate—the sodium salt—and some bromide, a still better developer is formed.

It is a valuable addition to our already numerous agents of reduction.

Yours truly, P. C. DUCHOCHOIS.

A CALIFORNIA OSTRICH.

At the Silver Gate.

BY M. Y. BEACH.

AWAY out here in San Diego, California, the Silver Gate, as it is called, amateur photography flourishes like a green bay tree. When Winter comes the ranks of amateurs living here permanently, are swelled by crowds of tourist photographers, all eager to secure views of the curious sights which Southern California has to offer. Of course climate is here regarded as the most important thing to consider, and were it possible to photograph climate, doubtless every art gallery in Christendom would have a photographic representation of San Diego's 340 clear, dry days, out of every 365 days, of the year. At Coronado Beach are African ostriches who enjoy posing for a picture. These birds are descendants of imported parents—imported before the contract labor and Chinese exclusion bills became laws. These fond parents reared considerable families, all members of which now furnish plumes for New York and other belles. The revenue derived from the sale of eggs and feathers maintains a large farm where more birds are being raised. The ostrich here pictured can kick a hole through a one-inch plank with the least damage to the toe-nail. A slight kick from one of these powerful birds would kill a man instantly.

In 1769 the San Franciscan priests came to San Diego and established the first of the twenty-one missions afterwards erected in Southern California. They began to evangelize the Indians. Their first efforts at planting included palm and olive trees. A few of these trees are standing near the ruins of the San Diego Mission, near the head of Mission Valley.

As to a Certain "Previousness" Among Some Contributors to Photographic Literature.

THERE may have been noticed among writers on photographic methods and formulas a marked tendency to go off at half-cock. Many of these gentlemen having made a correctly timed exposure, which almost develops itself, hasten to communicate their formula to some photographic magazine or year-book, stating at the same time the wonders their developer will perform. Farther experiments, made after the publication of their communication, on plates more or less incorrectly exposed, cause them materially to modify their views. In the mean time a number of victims have discarded perhaps a better developer and uselessly spent money and time following a very uncertain lead.

Give correct time, and almost any standard developer will answer. For incorrect exposures the ash-barrel yawns. I have heard of a mixture for saving addled eggs. I have never tried it.

Of course I am speaking of such pictures as are up to the standard of advanced amateurs. With certain beginners excellence, either artistic or technical, is not a consideration, while in professional work liberties may be taken. The final judge in professional work cases is the sitter, who probably bases his criticisms on reasons other than those founded upon technical excellence. Whoever heard of colored persons objecting to an overtimed picture because it made them appear lighter?

If the enthusiastic photographer, before sitting down to write, would test his infallible formulas on, say, one hundred plates exposed at different times and under different conditions, much trouble would be saved for himself and for the rest of us.

Another objectionable class of persons is composed of certain writers for the French magazines on photography, who frequently in one issue suggest formulas or processes and take them back in the next. How often do we see "M.——(or Mons., as the translator incorrectly puts it) suggests a radical modification of the formula given in the last number!" In the mean time a number of exasperated experimenters have become convinced through fruitless expenditure of time that the best place for the formula is out of doors via the window.

Another vexatious class is that claiming everything for the last discovered developer. According to them it will work miracles. "Exposure is reduced one-half," "the right density is always obtained," and so on *ad nauseam*. These same writers a month later are back to their old developer, and so is the crowd that followed them. This same enthusiasm for newly discovered chemicals prevails in medicine. Anent a drug, then all the rage, a witty German doctor recently wrote: "Hasten to use it while it yet cures."

H. P. Robinson is fully alive to the evils of an over-abundance of formulas, and states in a recent article that in all his writings he has made public but one.

Let us hope, then, that over-enthusiastic contributors on photographic chemical subjects may exercise a little self-control, and that "previousness" in furnishing formulas may, to a certain extent, be discontinued.

C. B. M.

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The Platinotype Up to Date.*

BY ALFRED STIEGLITZ.

IT is not my intention, nor do I propose, to deliver an elaborate or scientific lecture this evening. My sole object in being here is to give you a short history of that photographic printing process called platinotype, and to show you, by demonstration, how to work its new and perfected modification, the "cold bath" paper.

To all of you who have not tried it, the simplicity and quickness with which it is worked will be a revelation, and all those who still hold the opinion that platinotype printing is difficult will, within a short time, I hope, be convinced of their error.

It is a well-known fact that very many of the ferric salts, in the presence of organic matter, are reduced by the action of light to the ferrous salts, this phenomenon being the basis of many of our present photographic printing processes—kallitype, blue print, platinotype, etc.

Inorganic iron salts, as, for instance, iron chloride, sulphate of iron, etc., are not generally affected by light; but in the presence of any organic matter, as oxalic acid, citric acid, paper, gelatine, they are reduced from the *ferric* to the *ferrous* state, the organic matter being oxidized.

The platinotype printing process is based upon the reduction of ferric oxalate, by the action of light, to ferrous oxalate, which in turn, in the presence of potassium oxalate, reduces the platinum salt to platinum black; the formula for this reduction being:

$$\begin{array}{ll} 6\,(C_2\,O_4\,Fe) + 3\,(K_2\,PtCl_4) = & 3\,Pt + 2\,(C_2\,O_4)_3Fe_2. \\ \text{Ferrous oxalate} & + Fe_2\,Cl_6 + 6\,Kcl. \end{array}$$

The platinotype printing process was invented by William Willis, of London, and a patent for the same was granted him in 1873. The original process consisted of coating either paper or wood with a mixture of ferric oxalate and platinum salts, and after exposing the same to light under a negative, developing the faintly visible image with potassium oxalate. In 1878 Willis received a second patent for the improvement of his process, the improvement consisting of the addition of oxalic acid and lead chloride, or a mercury salt to the sensitizer, and potassium platinous chloride to the developer.

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* Read before the Society of Amateur Photographers, October 18, 1892.

In 1880 he again improved the process, by dropping the lead salts in the sensitizer and increasing the platinum salt in the same, to such a degree as to be able to eliminate it from the developer. By this time, if I am not mistaken, the London Platinotype Company was in full blast, producing very beautiful prints under Mr. Willis' personal supervision. Up to this period no one outside of this party was able to produce platinotypes, and it was only a few years later that the process gradually found its way into the photographic world in general. Other experimentalists were at work by this time, but with little or no success, in trying to produce paper equal to the Willis production. Pizzighelli's and Hübl's combined researches were, however, crowned with success and were published. They were awarded the highest prize the Vienna Photographic Society was empowered to give. It is to these men that the photographer ought to be especially grateful; for what Willis had kept secret and was using for his personal gain, Pizzighelli and Hübl presented to the world *gratis*, thus enabling every one to produce pictures with the help of that beautiful printing method—the platinotype. Besides having benefited the world thus, many of their experiments were of great value to the chemist and photochemist, leading naturally to further research and the still further improvement of the process. In 1887 Pizzighelli published his method of preparing the printing-out platinotype, which, though it has been quite successful, still is too uncertain in its results to become very popular, at least in its present state. If ever perfected, it will be the platinotype process *par excellence*.

One great disadvantage of this process consists in the danger one runs in spoiling the negative which is to be printed. The paper, if not handled with the greatest care, and even then at times while exposed to light under the negative, will precipitate specks of metallic platinum on the latter, thus very often ruining such a negative.

In 1888 Willis introduced a new paper into the market, called the "cold bath" platinotype. This consisted of a paper sensitized with a coating of iron salts, which was, after having been exposed to light under a negative, developed with a solution of platinous chloride, oxalate of potash and phosphate of soda. The life of this paper was rather short, although the results obtained with it were very beautiful, the deposit of platinum being very fine. Its great affinity for moisture, which spoiled its quality, was its greatest drawback. In 1892 Willis produced the latest modification of the platinotype process, the "cold development" paper, which bids fair to supersede all the other platinotype processes so far known. Until this latest paper had been introduced into the market, the Willis papers were developed with a hot developer, which was bothersome to the comfort-loving amateur, and which was considered a great drawback in the general use of platinum papers. With the newspaper, this inconvenience has been done away with.

As regards the great value of the platinotype process, I am able to decide that after a long experience and an exceedingly careful examination into all the existing printing papers, that the platinotype process is the prince of all photographic printing methods. On artistic grounds, there is but one printing process which holds its own with the platinotype, and that is the carbon.

For many years, and even to-day, the makers of platinotype papers claimed that so-called "plucky" negatives were necessary to obtain good results on their papers. Now, I claim that such people know nothing about it, and that, on the contrary, the platinotype is especially adapted for those beautiful gray effects we so love to see in nature. In order to obtain these results a "plucky" negative is out of the question. What we do want, though, is a negative full of quality — that is, full of gradation — and one not too dense.

One of the chief difficulties with the old kind of paper was the great care necessary to preserve it from moisture of any sort, and it was always shipped and kept in special metal tubes having at the bottom a separate compartment, provided with perforations containing calcium chloride, which absorbed the moisture and kept the air perfectly dry. A broad rubber band tightly encircled the joint where the cover slipped over the box, to exclude air from entering there. It was also found necessary in printing to prevent the moisture in the air from getting in at the back of the printing frame, and a sheet of rubber was generally laid over the back of the sensitized sheet before the back of the printing frame was inserted. I have kept such paper in fairly good condition for a year, but experience shows that it is not an easy thing to do, and that there is, in a measure, some deterioration in tone and quality. Many workers still prefer the paper when it can be obtained fresh, but I am sure the new paper will be mostly used.

Learning the value of the metal tubes for the storing of the paper, I endeavored to get the American manufacturers to use them in sending out the new paper. This, though not affected as rapidly as the old paper by moisture, works better if kept dry. It was first sent out in packages wrapped in wax paper, but the latter was not a sure protection. Now the paper is supplied in metal tubes, and will keep good for a long time. While the new paper is much more costly than the ready sensitized silver papers, it is more simple in its working and more sure in the results obtained, there being less loss from waste or poor prints; at the same time the print is a permanent platinum black, which is unchangeable.

As has been previously stated, the paper is developed with a cold saturated solution of neutral oxalate of potassium, which may be used repeatedly on any number of prints. I shall develop before you a print with part of a ten-ounce solution, with which Dr. E. Leaming (who is kindly assisting me in this demonstration) has developed six dozen 5 x 8 prints, and you will notice the print is just as brilliant as if the solution was fresh. Here you will see there is an economical feature not found in any other process. The developer sent out by the Platinotype Company is a mixture of neutral oxalate of potash and phosphate of soda. This gives a colder tone to the print than oxalate alone. With the old paper, unless it was carefully placed on the hot oxalate bath, bubbles causing spots or streaks would occur, which would mar the picture and could not be readily eliminated; but with the new paper, if such a thing happens, just touching the spot with a little of the oxalate will cause it to develop out and blend perfectly with the rest. So that a former annoyance is entirely avoided.

The oxalate solution works best between a temperature of 70° or 80° F., though it will work satisfactorily between 40° and 70° F.

In making prints either from dense or thin negatives it is advisable to do it in bright sunlight, as the paper works faster then, and the printing should be carried on until traces of the high-lights can be faintly seen. The shadows will appear then quite plainly of an orange color, somewhat darker than the original color of the paper. It usually takes from three to five minutes or longer if the negative is dense. Three feet away from an electric arc-light a print may be made in from ten to twenty minutes. The paper can be handled in subdued daylight or gaslight without harm.

A great advantage is the development of a print locally—that is, if it is desired to bring out more detail in a portion that is slightly under-exposed. You simply heat the developer to 100° or 150° F., and dip in it a camel's-hair brush, applying the hot solution with the brush to the part you wish to bring out further; over-printing can be compensated for by diluting the developer with water.

Prints from thin negatives, with but little contrast, may be advantageously developed with an ordinary developer diluted with water, to which a small quantity of glycerine has been added. This will increase the brilliancy of the print.

In order to obtain a sepia color, a few drops of a solution of bichloride of mercury added to the developer will give the desired tone.

It will thus be seen that no matter what sort of a negative you have, some kind of a satisfactory print can be obtained from it. The process is more elastic in this respect than any I know of.

When the development is completed, which usually takes from one to six minutes, the remaining iron salts in the paper are dissolved out in one or two minutes, by simply immersing the print in a weak solution of muriatic acid and water. The actual strength is immaterial; one dram of acid to ten ounces of water is enough; then a slight rinsing of the print for a minute or so in water is sufficient washing, when it may be dried and mounted.

The prints may be dried very quickly by placing them between blotting-paper for a few minutes, when they will be in such a condition as to be easily cut down to the desired size and immediately mounted.

The whole process from beginning to end is so quick, so simple and so satisfactory that it is a great satisfaction to work it.

As to quickness it has no equal, for a finished mounted print which is permanent can be made from a negative inside of ten minutes.

Another great advantage of the process is, that any number of prints of equal quality can be made from one negative, if the arc-light is used as the medium of light. After having acquired the correct time, the work becomes mechanical. This has been considered a fault—the only fault that has thus far been found with a process of printing which stands aloof from all others. Try it!

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THE WORLD'S FAIR PHOTOGRAPHIC PRIVILEGE SHOULD NOT BE RESTRICTED.—The question as to the rights and privileges of photographers at the World's Fair is attracting considerable attention among amateurs, and the position taken by the managers is exciting much just criticism.

The present intention of the management is to sell to two or three parties the exclusive right to take and sell pictures on the grounds, and while it may be perfectly proper to restrict the sale of photographs, it does not seem right in this, the age of photography, to prohibit the public at large from using a camera on the exposition grounds.

The camera is the note-book of the modern traveler, and there seems to be no more justice in forbidding him to use it than there would be in interfering with the use of his pen or his field-glass. It would probably be desirable to regulate the use of a tripod camera upon the grounds as a quasi obstruction, but any instrument operated in the hand should enjoy practical freedom.

It is argued that this freedom to take pictures would deprive the fair of a considerable sum of money, for which the exclusive privilege could be sold, but in reply we may assert that a sufficient number of the thousands of photographers who will visit the fair would be willing to pay a small daily camera fee, to net a much greater sum than could be obtained for the exclusive right, and, besides, the right to sell would be of considerable value.—*The Photo-American for July*, 1892.

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TO REMOVE EIKONOGEN STAINS FROM THE FINGER-NAILS.—A correspondent says: "Have the nails and hands perfectly dry, then melt in a small alcohol lamp, and drop on and under the nails, paraffine wax. It melts so easily that it will not burn, and washes off in warm water, leaving the nails clean and nice."

Editorial Comment.

Our Illustration.—In presenting one of Mr. H. P. Robinson's pictures, "Noontime," kindly given to Miss Barnes by him during her stay in England, it is needless to say the elements of an attractive and interesting composition are apparent, and should be studied with care by every amateur aspiring to do picturesque work. Mr. Robinson is so well known that it is not necessary to enter into the details of how he came to produce the picture. It speaks for itself, and will, we hope, interest others to follow his example.

Club Affiliation.—There seems to be a growing sentiment among the English photographic clubs towards affiliation with each other, or the extending of special privileges among members of different clubs, with a view toward making club membership more useful and valuable. The idea is embodied, substantially, in the United States by the American League of Amateur Photographers, but apparently has not become as popular as in England, where the towns are close together and societies more numerous. One of the latest plans is suggested by Mr. Philip Thomas, secretary of the Cheltenham Amateur Society, which proposes that dark rooms and photographic facilities shall be offered by societies to strangers and visitors. The idea is that names of reputable photographic societies be sent to some photographic journal and be kept on record, and that members of a society visiting a strange city should be allowed privileges by societies in such places. Such facilities as could be accorded are self-evident. The Cheltenham Society issues the following form of affiliation card, which can be utilized to advantage by other clubs:

> DEAR SIR—Permit me to introduce the bearer ....
> as a Member of this Society. Our Committee will be glad if you will render him such photographic facilities and assistance as may be in your power during his temporary stay in your neighborhood.
>
> Thanking you in anticipation,
> I am, yours faithfully,
> ....*Secretary.*
>
> *To* ....
>
> N.B.—This card is not transferable, is available for short visits only, and should be given up to the addressee.

The general practice here has been for an officer of a club to issue a letter of introduction, which a member can carry and show to officers of other clubs, who invariably accord the privileges at their disposal to the visiting photographer. The card plan is, perhaps, less troublesome, and could be extended or utilized in the securing of lower rates at hotels.

We shall be pleased to publish a list of clubs and societies willing to enter into some such affiliation scheme as above suggested, and will have special affiliation cards printed for any clubs desiring them at moderate cost.

One Method of Development.—One or two expert amateurs have informed us of the successful method they employ in developing a large number of negatives, which, though not especially new, is worth recording. It is what may be termed the separate solution system. One adopts the plan of having in two different trays solutions of hydroquinone of varying strength. The first is weak in alkali, or may be an old solution containing a little bromide. The second is a much stronger solution, containing considerable alkali. He develops two 4 x 5 plates at a time, putting them first in the No. 1 tray and keeping them there until the development is about half completed, then they are transferred to the second tray and finished, or remain until sufficient density is acquired.

When the weak solution begins to work too slow, half of it is thrown away and half of the strong solution is added, that, in turn, being strengthened by a fresh solution. Working in this way, he did not lose a single negative, because in the first solution he could judge by the rapidity of development whether a plate was over or under timed, and would then utilize the second solution according to circumstances.

Another adopts the plan of starting the plate in a moderately strong solution of sodium sulphite and eikonogen until development begins fairly well; then the plate is transferred without washing to a plain solution of carbonate of potash and water (strength about thirty grains to the ounce), and at once becomes more dense and full of detail, while the density is of that quality as not to block out the detail in white objects. Softer negatives are said to be obtained by this plan than when the alkali is mixed directly with the eikonogen.

How to Prevent the Formation of Pinholes.—One of the frequent annoyances in the development of plates is the formation from some cause of many irregular-shaped pinholes. When examined under the microscope it is noticed there is usually a speck of opaque matter in the centre, with a clear circle around it. It is supposed to result, not from dirt in the film, but from particles of foreign matter in the developer adhering to the tacky film as soon as the plate is immersed therein, and before the solution has time to fully act on the film. Experiment shows that plates susceptible to that difficulty may be improved by rubbing the ends of the fingers over the surface of the film immediately after the developer has been applied. Plates that were before full of pinholes have, after this treatment, come out entirely free from them. The rubbing action prevents the particles from adhering soon enough to the film, and enables the developer to secure a foothold that prevents their formation. This wrinkle was given us by an amateur of experience, and is no doubt effective. We have found gliding or sliding the plate edgewise in a tray of water, before applying the developer, a very good way to lessen the creation of pinholes arising from the formation of air bubbles on the surface of the film.

Celluloid Diaphragms.—There is no reason why diaphragms for lenses should be made of metal, blackened, when a better substitute can be had at less cost. We refer to black celluloid, which is an admirable material. It can be obtained in thin sheets, and diaphragms cut out of it are most perfect, because they are twice as light as metal, never become bright from wear, and the slight curve to the sheet makes the diaphragm adhere more strongly in the diaphragm slot, so that it will not fall out in case the position of the slot is reversed.

Mr. Ives' Heliochromoscope.—In our last number we gave an illustration of the heliochromoscope, a new instrument for reproducing photographs in their natural colors, invented by Mr. Fred. E. Ives. We have since been given an opportunity of personally trying the instrument and were astonished and surprised at the exquisite result which is so easily obtained. Mr. Ives has made a few improvements in the instrument by which all the various reflectors are more easily and accurately adjusted. He shows a transparency containing three duplicate pictures two inches in diameter, which are in reality black and white in color, but each of which differs in the relative strength of the various portions of the picture; for example, in one picture the color of yellow appears as if it were clear and white, while in another picture the same color appears as a black and opaque, the same as when one photographs a yellow object with an ordinary plate. It may be also said that these photographs represent relatively the strength which the colors of red, blue and green are taken by the orthochromatic plate. When the transparency is placed in the instrument, there is intercepted between it and the condensers, screens for the respective colors, red, blue and green, and above these is a system of mirrors placed at certain angles. The red, blue and green rays from the three separate pictures are reflected and blended, and pass through a microscopic objective and eye-piece, so that the appearance to the eye, looking through the eye-piece, is of one single image standing out in relief exactly as in a stereoscope, having in every respect the actual colors as when originally photographed.

Mr. Ives tried the experiment of withdrawing the transparency, and then, when the instrument was looked into, nothing but a white light was seen, having a slight, greenish tinge. The moment the transparency was placed back again, the transformation to color was immediate and perfect. The possibilities of this instrument in the future, as being the means of reproducing photographs in colors, are something that cannot be estimated. Mr. Ives, we think, deserves a great deal of credit for the perseverance and energy with which he has pursued this interesting subject, and we have no doubt before many months there will be placed on the market cameras specially adapted for making triple negatives, from which will be made chromograms, as Mr. Ives calls them. We shall hope in our next number to give an illustration of the interior of this instrument.

Admittance of the Camera to the World's Fair Grounds.

SO much has been said about the probable admittance of the camera to the grounds of the World's Fair at Chicago, and counter rumors circulated, that it became necessary at last for the officials in charge to announce officially, at least, what would and what would not be allowed. The full verbatim text of the communication received on October 27th is here given and explains itself.

THE
WORLD'S COLUMBIAN EXPOSITION.
C. D. ARNOLD, Official Photographer.

OFFICE OF
D. H. BURNHAM, DIRECTOR OF WORKS,
WORLD'S COLUMBIAN EXPOSITION,
JACKSON PARK, CHICAGO, ILL.

OCTOBER 25, 1892.

AMERICAN AMATEUR PHOTOGRAPHER, 289 Fifth Avenue:

Gentlemen — Hand cameras using plates up to and including 4 x 5 inches, without tripods, will be allowed within the grounds of the World's Columbian Exposition on and after this date, on payment of a fee of two dollars in addition to the regular price of admission for each day.

Cameras using steoscopic lenses will not be admitted, however small the plate may be.

Very sincerely, C. D. ARNOLD, Official Photographer.

In explanation of the foregoing we should say that the word "steoscopic" should be "stereoscopic." While the concession is greatly restricted, it is, nevertheless, a fact that by paying a round sum the poor amateur may exercise the privilege of photographing inside the grounds. Had a daily fee of 50 cents been made it would be more taking, especially for the hand camerist, and be more in accord with the suggestion made in the many petitions presented to the Ways and Means Committee. The restricting of the plate to so small a size is, we think, injudicious, also the injunction against tripods. Cameras are made in so many shades of sizes it is going to be practically very bothersome to decide this point, especially if intrusted to persons unfamiliar with photo apparatus. Stereoscopic pictures can be made with one lens as well as two, and on improvised tripods also. There are so many thousand amateurs that are going to make these sort of pictures, according to Mr. Arnold, that it scares him. In reality, not one in a thousand amateurs bothers with stereoscopic work. The gist of the official letter is that the official photographer refuses to recognize the difference between an amateur, who does not sell his work, and who, therefore, cannot interfere with the legitimate work of the Fair, and the professional, who simply wants the privilege for what he can make out of it. This, we think, is a mistake, and are inclined to the opinion that the Fair authorities should discriminate between these two classes of persons, allowing those who agree not to sell their work to enter free, and charging a royalty to those who wish the privilege for pecuniary reasons. The Hon. John Boyd Thatcher, National Commissioner from the State of New York, has been influential in shaping the opinion of the National Commission on the subject. In a recent communication he says:

> I think matters relative to the privilege for amateur photographers have been satisfactorily arranged. I secured the rule in Chicago by which photographers are permitted to take photographs in the grounds with the approval of the Director-General, and I feel sure that we can secure the approval of the Director-General without any charge being made amateurs. I have taken the ground that amateur photographers will do more to advertise the Fair than any other class of people, and, therefore, should not be charged for that privilege. Moreover, as they do not sell their work they do not come in competition with professionals, who should be charged, and whose works should bring in a revenue to the Exposition Company. I think the Director-General will cause labels to be made which, when an amateur photographer applies for the privilege, will be pasted on his camera, after which he will be entitled to take photographs anywhere without the buildings. It is nothing but right, where one desires to photograph inside the buildings, to first secure the consent of the exhibitors.

During the last week in October the National Commission met in Chicago and adopted a code of rules for the government of the Fair. That relating to photography is as follows:

> Sketches, drawings, photographs or other reproductions of articles exhibited will only be allowed upon the joint assent of the exhibitor and the Director-General. But photographs may be taken upon the grounds and general views of portions of the interiors of the buildings may be made by the approval of the Director-General.

This substantially opens the Fair to photographers unless the Director-General is empowered to make restrictions. It is probable he will confer with the Ways and Means Committee before deciding as to when and how photographs may be made. A correspondent informs us that it is reported that one member of the National Commission had a resolution drawn up, but not presented, which, if adopted, would have opened the doors wide to amateurs. From another source it is learned that the rules adopted by the National Commission supersede those made by the Executive Committee and its sub-committees. There is consequently some chance that a favorable discrimination may be made in behalf of amateurs and the present restriction of $2 per day and limitation of the size of the camera may be removed. We hope so at least, and are gratified to note the favorable ruling inaugurated by the commission.

It is stated a different badge is gotten up for each day to those who are licensed to photograph, and there will be three different places for the camerist to enter. A committee of the Chicago Camera Club is actively engaged in securing all the possible advantages for greater freedom in photographing there, and is favoring the plan of the building of nine large dark-rooms in a large hotel adjoining the grounds.

So far as the official photographer is concerned, we learn that he originally came to Chicago from New York when the buildings were begun, and through the influence of a well-known firm of New York architects was appointed by the Department of Construction as its official photographer.

Lantern-Slides.

DURING the Winter months nothing is more entertaining or interesting than to pass in review with one's friends, by means of the lantern and screen, the results of the Summer's work, or a Summer's tour, in the shape of lantern-slides. These are so easily made now on most any of the variety of specially prepared lantern-plates to be had that they form a most satisfactory method of obtaining positive prints from the negatives. The two principal ways of making slides is by contact and by reduction in the camera, or a special dark-room. Contact is perhaps the simplest plan, and may be performed at night by the aid of artificial light, and is especially useful in making slides from hand-camera negatives or from sections of large negatives. It is advisable to use a printing frame a trifle larger than the negative, having a clean glass inserted in the usual place of the negative; then the latter is placed, film side up, on the glass. This allows freedom in the changing of the position of the negative in the frame, and of the sensitive plate when placed in contact. If the picture is not straight on the negative, it may be put straight on the slide-plate by holding the frame up to a ruby light and looking through the lantern-plate, pressing the latter, while in a vertical position, in contact with the negative by the thumbs of each hand. While thus clamped, a slight release of the pressure of the fingers will permit the slide-plate to be rotated until, in looking through, the lines will be seen to be correct. All this is much more quickly done than it takes to describe it. After the plate is adjusted, a sheet of black cloth or paper is laid upon its back (this avoids halation when an exposure is made); then the back of the frame is clamped in. A trial exposure of ten seconds may be made two feet away from a kerosene lamp, a gas-burner or an incandescent electric lamp. To determine how nearly correct it is, the exposed plate should be put into a uniform developer, and the development continued until the film is pretty well affected all the way through, or the image appears by reflected light rather darker than it should. There should also appear details in the high lights. Much discretion is here required, but after a few trials the desired result is easily found. After development the plate is slightly rinsed in water and then fixed in solution of hyposulphite of soda, washed for half an hour in changing water and then dried. In a future number will be described the method of reduction in the camera, and more particulars as to mounting slides. The following developer, recommended by Mr. William M. Murray, of the Society of Amateur Photographers of New York, will give warm tones if the exposure has been long enough.

Hydroquinone, ...	100 grains.
Sodium sulphite, ...	400 grains.
Potassium carbonate, ...	400 grains.
Water, ...	20 ounces.

To form the developer use 1 ounce of the above, to which add 2½ to 3 ounces of water.

Another rather simple developer, producing very clear slides, is made as follows:

Amidol, ...	20 grains.
Sodium sulphite.	80 grains.
Distilled or rain water, ...	8 ounces.

Take 1 ounce of the above and add 2 ounces of water. Mix besides a saturated solution of sodium sulphite in water, and add half a dram at a time in case the exposure is short or development long.

Correspondence.

PHOTOGRAPHING IN ENGLAND—ENGLISH PLATES, FILMS AND CAMERAS.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER :

As you have kindly suggested that a few notes concerning my recent photographic trip abroad might prove of interest, I would say that I left the United States in the early part of last June for a tour through Great Britain, Ireland, Belgium and Holland. I found in England alone, however, so much valuable and interesting material that, to do it even scant justice, occupied a much larger time than I had anticipated, so that my original scheme was not fulfilled, and the whole time was spent in England. Landing at Liverpool, Chester was first visited, where its quaint old wooden buildings and its beautiful cathedral afforded many interesting subjects ; then Warwick, Kenilworth, Coventry and Stratford-on-Avon, all places very popular with American tourists. Although the main features of interest in this part of England have been "photographed to death," there is yet much quaint and interesting material that is overlooked, and which will fully repay the time expended in hunting it out. The weather here was rather unfavorable, but still a number of exposures were made. After a few days in London, mainly for purposes of photographic equipment, a start was made for the north, the cathedral towns being the main objective point. Cambridge was the first stop ; then came Ely, Peterborough and Lincoln, their grand old cathedrals being full of choice artistic and architectural studies. Then a detour was made to Rowsley and Haddon Hall, so as to attain a brief glance at the Derbyshire Peak region. This part of England abounds in picturesque subjects—many of them well known by the artistic pictures of Mr. Richard Keene, of Derby—and a whole summer could be well spent at work in this district. Then the cathedrals were taken up again —first, York; then Durham, with an incidental side trip to Ripon and Fountains Abbey. A very enjoyable week was spent with the Photographic Convention at Edinburgh, and its excursions to Melrose, Dryburgh, Dunfermline, etc. Then the line of march was taken up again, and the picturesque lake region of Cumberland and Westmoreland visited, a week spent at Keswick, making it my headquarters for the upper region, and then another week at Ambleside, both of which—curious circumstance for the English lake region—were free from rain. Many exposures were made, but—perhaps because I was too familiar with the grand mountain scenery of Norway and Switzerland—the landscape seemed tame and monotonous, and too garden-like, and I was glad to return to the picturesque again at Furness Abbey. The atmospheric difficulties, even when it does not rain, are many in the lake region ; it is often very dull and foggy, utterly preventing distance work, and strong winds prevail. I understand one prominent firm of professional photographers started out to get up a series of photographs illustrating the country, and after three or four weeks' work gave it up in disgust. My course now turned to Chester, then Lichfield, and then a little beyond to a fine old manor house in Cheshire, Moreton Old Hall, a rival in quaintness to more widely known Haddon. Then, returning to Chester, a flying trip was made into North Wales (Snowdonia) by way of Conway, Cærnarvon, Bangor, Llanberis and Bettws-y-coed. Thence my route lay down through the Valley of the Wye to Chepstow, taking in Tintern Abbey on my way ; thence to Wells and Glastonbury, and then eastward through the cathedral towns of Salisbury, Winchester, Chichester and Canterbury to London. A brief and all-too-short trip through North Devon and Cornwall completed my summer's outing.

My equipment consisted of two tripod cameras, sizes 8x10 and 5x7, with a full battery of lenses, ranging from a 5-inch wide-angle Ross to an 18-inch single landscape lens of Beck. I also took a 4x5 hand-camera, the new divided camera made by Ross, of London, an instrument which afforded me the most unqualified satisfaction and was simply perfection. My photographic material consisted of cut celluloid films for the two larger cameras, and glass plates for the hand-camera. The films were from a manufacturer whose products had served me fairly well in the trips of the two preceding years, and were of two sensitometers: rapid, for interior work, and slow orthochromatic for open-air exposures. Alas! however, the films were soon discovered to be exceedingly bad, especially the quick emulsion, but not before much valuable work had been lost. They were scratched, spotty and full of pinholes, and seemed to lose their image unless developed immediately after exposure. A change was therefore made to English-made films, and a summer's continued use of the isochromatic films made by Edwards, of London, have thoroughly convinced me that our American makers of cut films are "not in it," to use a slang term, in comparison with the English article. Those made both by Edwards and Fitch are much more rapid, well and *evenly* coated, and so free from defects as to be almost equal to a glass plate; the emulsions are rich in silver and give beautiful negatives, with good density and plenty of vigor. As the English makers use the same celluloid (American) as our home manufacturers do, the superiority can only be attributed to superior skill and *care* (I have emphasized this latter) in coating the film. My plates—of the same maker—were equally bad; but our good old English friends Wratten and Wainwright supplied an article which required no criticism and gave unfailing satisfaction. I do not think the English plate-makers produce plates which are in any way superior to our leading American brands, but they are fully equal to them, and when it comes to coating celluloid films, they seem to have acquired that mechanical neatness and dexterity which enable them to coat the celluloid so that the film is comparatively free from the spots, pinholes, etc., which are but too often a trade-mark of one of our leading American makers. This experience, however, while both expensive and annoying, has been of value to me, for it has convinced me how unnecessary it is to lug a trunk full of films and plates across the water, when one can procure as good and often better on the other side, and at a slightly lower price. I only trust the publication of my own experience may serve as both advice and warning to others contemplating a photographic trip abroad. I cannot but revert here for a minute to the wonderful strides made within the past few years by the English makers of tripod cameras. Formerly the English camera was heavy, clumsy and unhandy. Now it is—that is, the tourist camera—a model of beauty, lightness and strength. Those made by Watson, Adams & Co., Ross, Beck and several others are almost as perfect as one can imagine. Several days before returning I was shown one made by Adams & Co.—a 6½ x 8½, mounted in aluminum—which weighed but fifty-five ounces; it had every possible arrangement for correct and scientific work, and seemed about as perfect an instrument as could be made. With advent of the "kodak" the American photographic mind has run entirely to hand and folding hand cameras, while the tripod camera, the true instrument for correct and artistic work, has been almost entirely neglected. The English plate-holders, or "double-backs," as they term them, I do not like, still preferring the lighter and cheaper American holders with removable slides. In closing I cannot refrain from expressing my sincere appreciation of the many kindnesses and attentions I received from photographic brethren, both amateur and professional, during my brief stay abroad, and I trust, should, in the coming year, we be favored with the visits of some of our transatlantic cousins to attend our great exhibition, American photographers will show them at least some faint return of the uniform and kindly attentions I received from their hands.

Respectfully,

CHARLES L. MITCHELL, M. D.

PHILADELPHIA, October 31, 1892.

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Teleo-Photo Lenses.—A Correction.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER:

GENTLEMEN:—At the regular meeting of the Society of Amateur Photographers of New York, on September 18th, I explained the optical principles involved in the construction of Dallmeyer's new teleo-photographic lens, as well as the more primitive instruments which preceded it. I did this, after careful preparation, solely for the benefit of my fellow-members, who, I thought, would prefer an oral explanation to studying the subject out for themselves. But in your October number appears an irregular report of this lecture, which, although, no doubt, written with the best intention, will do me serious mischief in case the report is read by any intelligent photographic student. Lest any one should hold me responsible for the errors of your correspondent, I ask for enough of your space to deny that I said, "it was difficult to obtain distinct pictures on account of the short focus of the objective;" that I said, "behind the objective, nearly midway in the tube, is placed the portrait combination;" that I said "this rear combination of lenses, when moved nearer to or away from the portrait combination by a very slight movement, makes a very appreciable difference of the size of the image on the focusing screen;" that I said, "with this construction the length of a bellows need not exceed three feet." I am content to make these denials without attempting to repeat what I *did* say, which would make this letter too long. I cannot understand how your reporter obtained his information, or misinformation. I have rarely seen so many mistakes in so few lines.

Yours respectfully,

WILLIAM M. MURRAY.

NEW YORK, November 1, 1892.

[NOTE.—In justice to our reporter it should be said that the taking of a verbatim report of what was spoken was not intended; it was to present in substance the facts as stated, and we believe they were mainly right. Reference to the published illustrations of the lens in question shows that varying the positions of the front lens with reference to the back combination varies the focal plane of the plate, which must in turn vary the size of the image. In place of locating the portrait combination behind the objective, as stated, it is substituted as the positive element in the front of the tube. Any mechanical arrangement for varying the distance of the back set of lenses from the front set, must effect the same result as by varying the front lens. With reference to the opera-glass objective, we are advised that diagrams were shown describing it as being of very short focus. As to the length of the bellows, we are informed the length of same was stated in inches, and for brevity the approximate number of feet was mentioned. We shall be glad to publish a revised edition of Mr. Murray's interesting talk, corrected by him and illustrated by diagrams, and shall hope to interest him to do something of the kind. We do not desire to defend any glaring errors our reporter may have made, but rather wish to explain that they are liable to creep in in the best regulated reports; we shall endeavor to have them as correct as possible in the future, and in the present number refer to the very full report of Mr. Stieglitz's paper on "Platinotype Paper," as to what can be done with the co-operation of the speaker.—*Eds.*]

Society News.

SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.—*Columbian Naval Parade Excursion, Tuesday, October 11th.*—On the foregoing date the society and its friends started about 10:30 in the morning from the foot of Pier 7, North River, on the sidewheel steamer *Meta*, for a trip down the bay to photograph the Columbian naval parade. The air was balmy and the day fine ; all the conveniences for good work were present. Going down the bay there was very little to photograph ; a few yachts were in sight and some steamships. There were about 150 persons on board the boat, and ample room for all to operate their cameras in comfort. There was a very good dark-room arranged on the lower deck, fitted up with ruby fabric and a sort of labyrinthian entrance. It was constructed under the direction of Mr. W. F. Hapgood, who also had charge of the movements of the boat. One of the vessels that was seen on the journey to Gravesend was the torpedo-boat *Cushing*, which was painted lead-color, and therefore hard to photograph. The *Meta* did not get near enough for a view of this interesting craft. In about one and one-quarter hours Gravesend Bay was reached, where the war-vessels lay at anchor. There appeared to be no other vessels around but these, and the opportunity was given for many snap-shots in different positions. Of these vessels those of particular interest were two French vessels, one Spanish and one Italian, besides the United States cruiser *Philadelphia* and the monitor *Miantonomah*.

In such a celebration as this it was to be expected that all the war-vessels would be decked out gayly in flags from stem to stern, which was the case in the Washington centennial parade ; but what surprised all, none were decorated, but were simply in daily attire, so to speak. After cruising around the vessels at anchor, shortly before noon a start was made up the Narrows for the purpose of securing pictures of the start of the parade. When opposite Fort Lafayette the first salute was given by the guns at Fort Hamilton on one side and Fort Wadsworth on the other. The ships, preceded by a row of steam tugs, moved up the Narrows, and when opposite the two forts previously mentioned, returned the salute; but the *Meta* was too far away to obtain the picturesque effect of the ships enveloped in clouds of smoke. As the ships increased in speed and came nearer to our vessel excellent photographs of them on bow end on the motion were secured. Passing the Statue of Liberty, a second salute was made by the guns at Fort Columbus on Governor's Island. The *Meta* happened to be nearer the statue at this time than Fort Columbus, and some very good photographs were made of the statue, apparently rising from the smoke of the guns. Hugging the west shore of the river, the *Meta* proceeded and got behind a number of large scows and river craft opposite Communipaw Ferry just when the third salute was made and returned by the ships; the latter were too far off to secure satisfactory views. Continuing up the river, no incident of special note occurred except the interesting sight of the crowds of people on the banks looking at the parade. Reaching the anchorage, opposite Grant's tomb, on Riverside Park, much time was lost by the vessels shifting around with bow downstream. When they came to anchor at this point, it became the duty of the Italian vessels to return the salute of a battery on shore, and the *Meta* had a fairly good position, so that several views were taken during the cannonading. One novel feature was the parade of the New York fire-boats sailing along and spouting great streams of water into the air. They offered an opportunity for many cameras and were satisfactorily captured. In going up the river the tug of the New York *World* preceded the *Meta*, and the society was honored next day by an illustration of the bow of its boat in their journal Dr. E. C. Bolles was also on board of another iron-deck steamer, called the *Scranton*, which was successfully photographed. We learned that he also photographed the

Meta. After the final salute of the Italian vessel the parade for the day was virtually ended, and the ***Meta*** returned down-stream to Twenty-second street, where many of the members and friends disembarked. On the way down the west side of the river was lined with freight cars, from the roofs of which many people viewed the parade. The ***Meta*** arrived at Pier 7 shortly after five o'clock, and thus ended one of the most successful excursions the society has undertaken. It should be mentioned that the other member of the committee in charge was Mr. Frank G. Elgar. It is estimated that there were seventy-five cameras aboard, and that not far from 1,500 plates were consumed. Besides the president and corresponding secretary of the society on board, there were Mr. Paul L. V. Thiery, president of the Newark Camera Club, and several members of that club; Mr. C. Bierstadt, of Niagara Falls, who had the only stereoscopic camera on board, and Mr. Henry J. Newton, president of the Photographic Section of the American Institute, and also a number of ladies. Refreshments were provided by the committee during the day.

From the New York *World* of October 12th we take the illustration of the boat. In its account of the parade it says: "A big side-wheeler, with a huge strip of white canvas about her bow, made the circuit. The canvas bore the sentence: 'Society of Amateur Photographers.' Her decks were black with people. From the bow, the stern and every point of the hurricane deck cameras were pointed at the war-ships. It was a glorious day for photography, and the amateurs must have had a feast of snaps."

Regular Meeting, Tuesday, October 18th.—Owing to the naval parade coming on the day of the regular meeting, it was decided by the Board of Directors to postpone the meeting until the above date. The meeting was called to order about 8:30, when the president announced that the chief item of interest during the meeting would be the reading of the paper on "The Platinotype Up to Date," by Mr. Alfred Stieglitz (see page 493). Mr. Stieglitz was assisted by Dr. Edward Leaming in his demonstration, and made several prints by the aid of the electric arc-light, which seemed to demonstrate all that Mr. Stieglitz urged in regard to the merits of this simple and interesting process. At the close of the demonstration Mr. Stieglitz was given a cordial vote of thanks. Following Mr. Stieglitz, Mr. F. C. Beach exhibited a sample of the new developer, called "amidol," and showed some lantern-slides and a bromide print developed with it. He stated that the first trial of the developer showed it to be a remarkably rapid and clean one, but, having used water from an artesian well in mixing it, he had observed a peculiar milkiness or turbidity occurring shortly after it was made. He gave the formula and related other facts, as will appear in the article on the "Amidol Developer" (see page 477). The president alluded to the World's Fair petition for general photography, and a motion was made that he be authorized to sign it on behalf of the society, but some objection being made, no action was taken, and the meeting then adjourned.

The Lantern Exhibition of Friday Evening, October 28th, was attended by a large and appreciative audience, the slides being the prize slides of the competition held by

"Photography," a London weekly photographic journal. The lecturer, Mr. William M. Murray, explained the conditions of the contest, and gave a short sketch of the manner in which it was conducted as a preliminary to the exhibition. There were ten classes of subjects, three prizes to each class, and six slides in each set. One hundred and forty-five of these were shown, nearly the whole collection, and the pictures were arranged in such a way as to intensify the interest as the exhibition proceeded. The most effective work was the cloud and marine studies, by A. H. Webling; the landscape, by E. G. Lee and A. H. Kitchen; the architectural studies, by I. Davenport, whose views of Eaton Hall, Cheshire, were especially admired; the cathedrals, by Ernest Beck; the street views, by J. Robson and J. W. Wade, and the animals, by I. Kirkwood and Mr. Green, the most remarkable slide in this class being the young chicken, by E. J. Bedford. The figure studies and portraits were reserved for the close, and while most of them were somewhat deficient in photographic technique, they showed a most praiseworthy effort in the right direction. The honors in home portraiture and genre subjects were taken by Mr. and Mrs. S. Francis Clarke, A. R. Dresser and W. J. Anckorn. Mr. Clarke's beautiful illustration of "Love's Young Dream," which might have been called "Coming through the Rye," ended the exhibition. Our members are taking much interest in these English competitions, and Messrs. Leaming, Post and Stieglitz have entered slides in ' Photography's" competition of 1892, the results of which will be announced early in November.

Special Meeting, Tuesday Evening, November 1st.—On the call of ten active members a special meeting was held to consider the advisability of having the society endorse as a body, the petition for the extension of the photographic privilege at the World's Fair, which so many other clubs have endorsed. The attendance was very small, and when the matter was put to vote, a large majority of those present decided against endorsing the petition, which virtually means that the society, officially at least, is opposed to general and free photography at the Fair.

The lantern-slide committee of the society has sent out a card calling upon members to contribute slides for the next season's set to the American Lantern-Slide Interchange, and wish to secure views around New York and figure studies. A special committee, appointed by the Board of Directors to take charge of the exhibition that is to be held next March, has issued the following advance notice as to rules and regulations, dated October 20th, 1892.

In order to encourage our members to do new work, entirely the product of their own hands, and to stimulate them to trials of novel printing processes, it is proposed to hold a series of annual competitions for members only; the first to be held in our rooms about March 15th, 1893, and to be entitled "First Annual Members' Exhibition of Photographic Work."

Exposure, negative and print, in fact, everything except mounting and framing, must be the sole work of the exhibitor. All pictures must be mounted and, if possible, framed. The committee prefer that all pictures be mounted and framed separately, in order to facilitate judging, which will be on individual prints and not by sets. Names of exhibitors will not be allowed on pictures or frames, on which nothing should be displayed but the number or title. Prizes will be awarded at the discretion of the judges, but no awards will be made unless the work comes up to the required standard, which will be high. The committee reserve the right to reject any picture, or series of pictures, at their discretion.

The judges will be chosen outside of the society, but they will be required to judge not only for artistic qualities, but also for photographic technical excellence.

Prints which have taken prizes in other exhibitions will be barred from competition, but may be exhibited; the idea being to promote the production of new work.

There will be five classes in the competition, as follows:

Class A.—Landscape and marines.
Class B.—Figure subjects, including portraiture.
Class C.—Architecture, including interior.
Class D.—Hand-camera work.
Class E.—Transparencies, including lantern-slides in sets of six.

There will be an entrance fee of fifty cents charged for each class. Any competitor may enter in any or every class. Entry forms and particulars may be obtained by application to any member of the Exhibition Committee at the rooms. The exhibition will be opened at the rooms of the society, No. 113 West 38th street, on March 15th, 1893. Entries will close February 23d.

All pictures for exhibition must be delivered at the rooms, charges prepaid, before the first day of March. Respectfully,

ALFRED STIEGLITZ, C. C. ROUMAGE, T. J. BURTON, H. T. DUFFIELD, WM. M. MURRAY,
Committee on Membets' Exhibition of Photographic Work.

PHOTOGRAPHIC SECTION OF BROOKLYN INSTITUTE OF ARTS AND SCIENCES.—The first meeting of the season of the Photographic Section of the Brooklyn Institute of Arts and Sciences was held Monday evening, October 23d, Mr. George H. Cook in the chair. The first business of the meeting was the completion of the election of officers, which had been left over from the last meeting. The election resulted in the following officers being chosen for the coming year: President, J. Foster Flagg; vice-president, George W. Wundram; secretary, Gould W. Hart; treasurer, Pierre L. LeBrun; curator, Lewis E. Meeker, M. D. Mr. Alexander Black, the well-known writer and lecturer on photographic topics, was then introduced, and delivered one of the best lectures ever given before the Photographic Department. Mr. Black chose for his subject "The Artistic Side of Photography," a theme upon which he is particularly well fitted to speak, his own pictures, as seen at various photographic exhibitions, showing not only the skill of the expert photographer, but the personal feeling of the artist. The lecturer began with the oft-asked but seldom satisfactorily answered question, "What is art?" and after glancing at the various ideas held at different times as to what constituted true art, and showing that the art of any age was always in advance of any definition of it, he at least approached a satisfactory solution of the question in saying that art consists of a truthful transcript of nature, plus the impression made upon the artist who tries to depict it. The lecturer laid great stress upon the element of personality in artistic work, showing how the same forest scene, for example, while true to nature in each case, would be differently rendered according as the individual artist was impressed by the vastness, the wealth of color, the solemnity, etc., of the scene. Considering the question in relation to photography, Mr. Black acknowledged the limitations of photographic art as compared with painting and sculpturing, but insisted upon the fact that a truly artistic spirit could be shown in the way in which these very limitations could be partially overcome in the artistic feeling which would lead the photographer to select the point of view, the lighting, the grouping of objects, which would best express the impression conveyed to his own mind and which he would like to convey to others. He showed, by some well-chosen photographs thrown upon the screen, how the very breaking of the rules of technically correct photography might be made to produce a most artistic photograph. He showed, on the other hand, how a photograph could be technically correct, and a faithful reproduction of artistic objects, yet have in itself no artistic value. This was well illustrated by a photograph taken in one of the beautiful halls of the Louvre, where the art shown was that of the architect and the sculptor, while the work of the photographer was simply that of a faithful transcriber. Of special interest, also, was a pair of views taken on one of the canals of Venice, the one being a perfect photograph merely, the other a beautiful picture.

The pictorial illustrations were particularly well chosen, showing in a graded series of photographs, first, how photography may be brought in merely as an aid to science and historical accuracy; then how she may become the handmaid of art, in catching and fixing for the future study of the artist the unconscious and evanescent phases of life and of nature, and, finally, how photography may become in itself an art by the conscious and careful choice of the photographer of that which will best convey his own impression.

Mr. Black may be held by some as heretical in considering that if the attempts to photograph in color ever really succeed, the results will be of more scientific than artistic value, as tending to destroy some of the beautiful effects that are now produced in pure monochrome.

The lecture was listened to by a large and appreciative audience.

BROOKLYN ACADEMY OF PHOTOGRAPHY.—This organization, in connection with Charles E. Loeber, went to photograph the Columbian naval parade on October 11th, on the side-wheel boat "John E. Moore," and exchanged snap-shots with several of the other vessels.

ALBANY CAMERA CLUB.—According to the Albany *Argus*, the club held its first Fall meeting on Friday evening, October 7th. President W. W. Byington having returned from his trip abroad, was cordially welcomed by the club, and refreshments were served at the conclusion of the meeting in honor of the occasion. Before the meeting Mr. Byington explained to the club a machine for measuring the speed of a camera shutter. At the previous meeting the Rev. Alfred Taylor, of Chestertown, N.Y., was elected an associate, and Fred F. Buell, of Troy, a non-resident member. A lantern-slide exhibition of the Summer work of a number of members was given after the meeting. Work is progressing for the exhibition of photographs by local amateurs, which is to be given about December 1st. Annesley has tendered the club the use of his art gallery for the purpose, and it is probable that the offer will be accepted, as it would be more convenient for the exhibition than the club-rooms. President Byington will read a paper entitled "A Trip Through Ireland" the first Friday in November.

THE CAMERA CLUB OF HARTFORD.—The annual meeting was held on Tuesday evening, October 11th. The last year was a short one, the by-laws having been amended so that the annual meeting occurs in October instead of February, at which time the last one was held. This change is a good one, as the officers are elected to serve through the entire Winter season which follows, and they can plan accordingly.

The annual reports showed the club in a prosperous condition. The inducements for new members to join were never so many as at the present time.

A great deal of credit is due President Dr. Geo. L. Parmele and the rest of the retiring Executive Committee for what they have done to place the club in its present high position. Dr. Parmele absolutely refused a re-election. Mr. F. D. Berry, our efficient treasurer, was re-elected unanimously, but he accepted only on condition that a successor be elected at the next monthly meeting. It is hoped that he will be induced to change his mind and retain his position for the year.

Mr. Herbert O. Warner was unanimously elected president. The club should consider itself very fortunate in having so able a successor to Dr. Parmele. Mr. Warner has showed himself a worker when he so ably managed the first two public exhibitions of the club.

The officers for the coming year are as follows: President, Herbert O. Warner; corresponding secretary, Chas. R. Nason; recording secretary, Robert A. Wadsworth; treasurer, Fred. D. Berry, with G. L. Parmele, W. W. Walker (and one to be elected) forming the Executive Committee. Col. Geo. Pope and C. A. Lovell were elected auditors.

As a member of the N. E. Lantern Slide Interchange, the club has to furnish by November 1st a set of fifty slides. Saturday evenings, October 15 and 29, will be "test nights," when slides will be tested and selected for the set. In a short time the committee will make out a programme of the Winter's entertainments.

CHARLES R. NASON, Corresponding Secretary.

SCHUYLKILL CAMERA CLUB.—On October 22d ten members of the club went on a field day excursion in a tally-ho to Long Run Hotel beyond Cressona, Penn., and had a delightful time. The return home was made over the mountain to Paxson Farm, through Schuylkill Haven.

THE WORCESTER CAMERA CLUB having outgrown its quarters in Clark's block, has secured an attractive suit of rooms in the Walker building. The first meeting was held in the new rooms on the eve of October 24th, and was largely attended. Their rooms consist of a reading-room, print-room, dark-room, studio room and a room for bromide enlarging. A committee, consisting of George H. Corbett, Ernest F. Dakin and Charles F. Hutchins, was appointed to look into and purchase a portrait camera.

MONTREAL CAMERA CLUB.—We have received from the secretary of the club a copy of the new constitution and by-laws, which appears very complete. The club was incorporated this year under the statutes of the Province of Quebec. It has resident, life, non-resident and honorary members. The president is Prof. D. P. Penhallow; vice-president, Albert Holden, and the secretary and treasurer, Charles F. Dawson. On October 3d a lecture on "Light," by Prof. John Cox, was given. During the coming Winter (about January 1st) the club purposes holding a public exhibition of pictures, and it is also designed to have a lantern-slide exhibition form a feature of the general exhibition. It is intended to award prizes for the best pictures. Three prizes will be offered for the best amateur outdoor picture by any boy or girl under twenty years of age. The first prize is to be of the value of seven dollars and membership in the club for one year; second prize of the value of three dollars and membership in the club for one year; third prize, membership for one year. The pictures must be the result of work performed during the Summer of 1892, and the entire execution must be the work of the competitor, and only one picture by each of the two processes—silver and bromide—by any one competitor will be admitted, and no picture less than 4x5. Each picture must be properly mounted. Pictures taking prizes will become the property of the club, in whose rooms they will remain on permanent exhibition.

NEW YORK CAMERA CLUB.—The members of the club, with their friends, about three hundred in number, went on an excursion down New York Bay, on October 11th, in the steamboat "General," and photographed the interesting features of the Columbian naval parade.

NEW JERSEY STATE DIVISION OF THE AMERICAN LEAGUE OF AMATEUR PHOTOGRAPHERS.—On the evening of October 7th over ninety amateur photographers met at the rooms of the Newark Camera Club, Broad street, Newark, and organized the New Jersey State Division of the American League. Mr. Paul L. V. Thiery, president of the National League, presided, and explained the objects of the proposed organization.

Delegations from the camera clubs of Bridgeton, Cranford, Plainfield, Hoboken, Jersey City, Irvington and Orange, and local amateurs, were present at the meeting, and elected officers of this division as follows: President, Oscar S. Teale, Plainfield; first vice-president, William A. Halsey, Newark; second vice-president, A. J. Thomas, Hoboken, and treasurer and secretary, Dr. T. N. Harvey, Orange. The Executive Committee chosen is D. S. Plum, Newark; F. A. Muench, Hoboken; J. Thorpe, Orange, and Dr. E. D. Frost, of Elizabeth.

The league was organized in New York on July 21st of this year, and a constitution adopted, which, in purport, is similar to that of the League of American Wheelmen. A special advantage of joining the league (dues for which are only $1 a year) is the fact that discounts are allowed to members holding membership tickets when purchasing photographic supplies. A large number of amateurs are expected to sign the roll. No definite time was fixed for the next meeting of the State division.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting of the society was held on Wednesday evening, October 12th, 1892, the president, Mr. Joseph H. Burroughs, in the chair.

Mr. Frederic E. Ives read a paper on the "Heliochromoscope," exhibiting the apparatus and also the special camera in which the negatives, with the necessary triple image taken through a single lens, were made. The wonderful results shown excited the highest admiration and favorable comment from the members present, and at the conclusion of the paper the following resolution was offered by Mr. G. M. Taylor and carried unanimously:

"*Resolved*, That the thanks of this society be extended to our fellow-member, Mr. F. E. Ives, for his paper just read, descriptive of further improvements in his wonderful and scientific inventions of camera and heliochromoscope for reproducing the natural colors in a photographic picture."

[Mr. Ives' paper will appear in our next number.]

Dr. C. L. Mitchell showed a portable divided hand-camera, made by Ross & Co., of London. Its principal feature of interest and value consisted in its being provided with a pair of matched lenses, one of which was used as a finder projecting an image on a ground-glass the full size of the picture about to be taken with the other lens. This arrangement enabled the picture to be carefully focused practically at the instant the exposure was made.

Mr. Wm. H. Rau gave a demonstration of the process of making bromide enlargements, using the new apparatus belonging to the society, in connection with the Welsbach incandescent gaslight. In order to overcome the jarring occasioned by heavy machinery in other parts of the building, it was necessary to construct the apparatus with this end specially in view. The stand supporting the apparatus, with the exception of the condensing lenses, rests upon four springs of pure India rubber. To counteract any motion which might pass through the springs, weights aggregating about 300 pounds rest on the framework of the stand. A second frame is supported on top of the stand on another series of six springs, about 100 pounds of iron weights being placed on this frame. The enlarging camera and board for the paper are rigidly attached to the upper frame. By this contrivance the vibration is entirely overcome, perfectly sharp work being done while the machinery is in active operation.

The Welsbach light used, as described by Mr. Miner, representing the company, consisted of a special burner devised for photographic work, giving a highly actinic light of 175 candle-power. By the use of a parabolic reflector, the effective power of this light was greatly intensified, having been estimated at 600 or 700 candles. The burner was claimed to use but about five feet of gas per hour, making it a very economical light for the purpose as well as a very convenient one, as compared with any form of electric light yet devised.

Mr. Frank S. Lewis mentioned that in developing film negatives lately, he had noticed that on lifting them out of the tray for examination, at the points where the back of the film rested on the fingers, the heat of his hand seemed to be communicated through the film so as to accelerate the development at those points. This was particularly noticeable in the skies of the negatives. He had also noticed that with some plates the strong contracting and adhesive power of the gelatine had caused it to pull off part of the outer surface of the glass around the edges of the plate. This seemed to be due to the glue-like character of the gelatine used, and illustrated the process largely used for producing a peculiar rough surfaced glass for decorative purposes.

A member asked why, in the case of an interior view which had an hour and a half exposure, a streak of sunlight which could be assumed to be greatly over-exposed had developed intensely black instead of giving the thin image generally resulting from over-exposure?

Dr. Mitchell thought it came from a second reversal of the image at that point, the usual thin image of over-exposure being again reversed and showing black.

Mr. C. W. Miller said that if an over-exposed negative were developed long enough, it would become black all through, as with the streak of sunlight. But, usually, with such negatives they were soon found to be over-exposed and the developer modified accordingly, the development being stopped before intense blackness was reached.

A member stated that in photographing in Florida, the Yellowstone Park, and other places where the sky was intensely bright, the skies were almost always overtimed and thin, and asked for a remedy.

Dr. Mitchell suggested holding the sky back with a color-screen and orthochromatic plates.

Mr. Carbutt recommended washing the plate off when the sky had reached the proper intensity in developing, and then, with a tuft of cotton or soft brush, continuing to apply the developer to the foreground until a harmonious result was obtained.

Mr. Ives practiced another method, which was to reduce the over-developed portion of the negative with Farmer's solution, applied in a similar manner to that recommended by Mr. Carbutt. This he did after fixing, and in daylight, which was quite an advantage.

Dr. Mitchell spoke in high terms of some interior views in the Alhambra, taken by Mr. Cembrano, secretary of the late photographic convention held in Edinburgh. These pictures had the strongest possible contrasts of light and shade, and he understood they had been developed on the plan described by Mr. Carbutt.

Adjourned. ROBERT S. REDFIELD, Secretary.

AMERICAN LANTERN SLIDE INTERCHANGE.—The new organizations that have been admitted to the interchange this year are the Oakland Camera Club, Schuylkill Camera Club and Orange Camera Club. Pending applications for membership are from the Ludlow (Ky.) Camera Club, Minneapolis Camera Club and Rockford (Ill.) Camera Club. The other organizations comprising the interchange are: The Society of Amateur Photographers of New York, Newark Camera Club, Photographic Society of Philadelphia, Photographic Club of Baltimore City, Cincinnati Camera Club, New Orleans Camera Club, California Camera Club, St. Louis Camera Club, Joliet Lantern Slide Club, Chicago Lantern Slide Club, Detroit Lantern Club, Buffalo Camera Club, Syracuse Camera Club, Albany Camera Club, Pittsburgh Amateur Photographers' Society and the Portland Camera Club.

Slides for the season of 1892–93 are to be sent to the manager, Mr. F. C. Beach, 118 West Thirty-eighth street, express prepaid, on or before November 15th. Soon after that the other members of the committee, Mr. Wm. H. Rau, of Philadelphia, and Dr. G. Hunter Bartlett, of Buffalo, will meet in New York and test the slides, making up different sets for the next season. Box No. 4, of 100 selected American slides, was dispatched this month to the Lantern Society of London. The London Society has also sent to New York its second box of 100 selected English slides, the leading feature among them being a complete illustration of Westminster Abbey, which will doubtless be entertaining to all Americans. The interchange is in a prosperous condition, and its work is being prosecuted in a systematic and regular manner. All clubs should exercise care in the proper matting and labeling of slides, as in one or two cases last season the slides had to be returned for correction on this account. The season for 1892–93 begins on December 1st, and lasts, with the exception of July and August, until October 20th of each year.

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MEN, NOT THINGS.—Under this title the *Practical Photographer* makes the following interesting suggestion: A few members of one of our leading English societies point out that, although the excellent American Exchange sets have made us familiar with much of the best American work, we know little of the majority of the leading American workers, and they suggest that a set of slides showing the counterfeit presentments of these workers, with brief biographical notes of each, would prove most interesting on "this side." This is certainly true. We would suggest, however, that the interest and variety of the series would be greatly increased if each portrait could be followed by a couple of representative examples in the characteristic style of the worker represented. We trust that one of the powerful American societies, or some other of the friends over there, will take up the notion, and that the photographic editors (whose portraits decidedly ought to be included) will help it along. If a similar set of English workers would be appreciated in the States, no doubt it could be arranged.

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PERSONAL.—We are informed that Dr. Charles L. Mitchell is to take the platform this Winter and will give a series of public lectures upon foreign travel (illustrated by his own views), under the management of Miss H. Harris, of Philadelphia. His views are all so admirably taken and his delivery so free and entertaining that there can be no doubt but what his undertaking will be a success.

In the London *Amateur Photographer* home competition last July Mr. Clarence B. Moore, of Philadelphia, was awarded a gold medal for the best set of six figure studies.

In the same competition Mr. Alfred Stieglitz, of New York, also received a silver medal—not a gold one, as stated in our September number.

The successful American workers are beginning to show that the fine work is not all on the other side of the water. It is a pleasure to note the favorable impression their work is making, which augurs well for our future local exhibitions.

In the 1892 prize competition by the same journal, on lantern-slides Mr. Alfred Stieglitz took a silver medal on genre subjects, and Mr. Wm. B. Post, of New York, was awarded the gold medal on landscapes.

Editorial Table.

AMIDOL.—This new chemical for a developer, we learn, has been introduced here by Messrs. Schulze-Berge, Koechl & Movius, 79 Murray street, New York, who are to be the sole agents for the United States and Canada. Samples we have tried equal in quality those obtained from other sources, and is a reliable article. The possibilities of this developer are many, and its advantages to the amateur, after one or two trials, will be obvious.

IMPROVED OPTICAL LANTERNS.—The season when the optical lantern is largely used has about begun, and as a source of amusement the lantern has no equal. One of the lightest, most convenient lanterns we have seen is the "Criterion," made by J. B. Colt & Co., 16 Beekman street, New York. It is made to be used single or double in case dissolving views are desired, while a very good arrangement is provided for carrying off the heat from the lower lantern.

In the new jet which goes with it there are several minor improvements for greater convenience in working, which will commend themselves to any one familiar with the subject. We learn also that the firm manufactures special pressure regulators for reducing the high-pressure gas to a workable pressure, that are quite effective.

While on this subject we should mention that Mr. Charles Beseler, of 218 Centre street, New York, has lately refitted his large establishment, and improved many of his well-known lanterns and appliances. His dissolver for lanterns is an article of the highest class, and gives satisfaction wherever used.

A CORRECTION.—In our last number we inadvertently stated that Mr. George M. Babb, of Boston, was the successor of Messrs. Codman & Co., formerly photographic merchants in Boston. We are informed that such, however, was not the case, but that Messrs. Horgan, Robey & Co. are the successors. Whatever credit we attached to Messrs. Codman & Co. should belong to this latter firm. Messrs. Horgan, Robey & Co. are well-known for their supply of the very best materials and apparatus, and we wish them success in catering to the wants of amateurs.

BULL'S-EYE CAMERA.—We have lately tried this little camera, which was sent to us by the Boston Camera Manufacturing Company, and obtained with it some very interesting photographs. The camera makes a picture, either square or round, as may be desired, 3½ inches in diameter. It is filled with a cartridge of celluloid rollable film containing enough material for making twelve exposures. The cartridge is wrapped in black paper and the camera can be loaded and unloaded in daylight. A strip of black paper connects with the film and has on its back, printed in white, the number of the exposure and the dividing marks where the picture begins and ends, so that in unwinding the film for development it is only necessary to follow the marks printed on the black paper to know where to sever the film. A miniature red window in the back of the camera allows the figures on the black paper to show through so that when an exposed film has been rolled off you can judge by looking at the exposed number where to stop. The mechanism for holding the film in the camera and for winding it is very simple and easily understood. A screw in the bottom of the camera holds the interior to the outside casing, and by simply unscrewing this the whole interior is lifted out at once. The case is made of black ebonite and presents a neat and attractive appearance. The shutter mechanism is quite ingenious and certain of operation. We are told this little camera is sold for $7.00, and we are sure it will be the means of instructing thousands in photography who otherwise would never think of taking up this interesting amusement.

"Index Rerum Photographic," by Dr. John H. Janeway, U. S. A., continued from page 476, vol. iv.

temptuous manner of what is called technical excellence. They assume that obtaining excellence in the mere mechanical details of photography is so simple and easy that it is not worth while to speak of the means by which such excellence may be insured, but there only remains to devote attention to what is called the art side of photography. Such teaching is detrimental to the progress of photography, if not, indeed, to a decided tendency towards retrogression. It may be fairly stated that art recognizes two distinctive characteristics — the imaginative and the descriptive. In photography the imaginative is a great deal replaced by the ability to recognize the beautiful, the grand, the sublime or the picturesque. If then accurate or truthful representation is recognized as art, it is hard to see why it should be ignored as art when photography is in question. Perhaps the reason for this different estimation is that it is taken for granted that photography must yield a true representation, and that, therefore, no skill is required to insure this result, and so when there is no skill there is no art. The assumption that photography must be truthful—if it is justified when applied to a production technically excellent—that is, free from defects—is certainly not tenable with regard to a photograph in which defects and blemishes have been allowed to make their appearance. One very common defect in a photographic negative is the appearance of stains, patches or messy places, due to irregularities in the development or to other preventable causes. These defects show themselves in their negative ugliness when they appear in the plain background of a portrait negative. The patchy lights and shades which they produce are not seen in the original background itself. Therefore the photograph is not a truthful representation. In landscape photography, with its varied forms of sky, foliage and foreground, a good deal passes muster that would insure the rejection of the photograph in plain portrait work ; but this passing muster does not imply the goodness or the truthfulness of the representation of nature, but only that we cannot so easily detect what is the true representation and what is the accidental misrepresentation due to imperfection in the photograph. Photographic defects of other kinds might be mentioned as causing untruthful and imperfect artistic results, such as under-exposure, with its large, heavy shadows, wanting in those bits of quiet illumination that are so evident in nature ; but enough has been said to show that the highest artistic excellence can only be looked for when what is called technical excellence is also present, whilst a high degree of the latter-mentioned quality will render most work interesting. The assumption that technical excellence is so easy of attainment that it may be looked for as a matter of course, and does not require to be cultivated, is a false and dangerous one. Those who would excel artistically, as well as those who have less ambitious aims, should cultivate with unceasing care that technical excellence which is in reality displayed by only a very small proportion of photographers.

EXPERIMENTING—Of the vast number of photographers who are experimenting nowadays, if we are to believe the papers, how few there are—pardon me—who really know how to experiment! They give some results, but not all, and even those results are not of any use, owing to some point having been forgotten. It is necessary in experimenting to keep a note-book, with notes of the experiment in such a way that, if handed over to another, he could perform the experiment over again and secure the same result or pursue the subject farther. The chemicals should be of the purest kind obtainable, noting the maker's name and date of purchase, and, if possible, tested for impurities, as the results obtained may be due to the reaction of the impurities and not the salt. The distilled water, also, ought to be tested for iron, etc., which it often contains, the first and last portions passing the still being discarded. Thermometers ought to be in constant use, and when gases come into consideration, the reading of the barometer also. Boiling solutions should be noted, temperature at the beginning, time occupied to reach boiling-point, time of boiling, reduction of bulk, time occupied in cooling, barometer at beginning and end of operation, etc.

EXPRESSION—From necessity photography is peculiarly portrayal, but it may also be pictorial; for this depends on one's ability to give adequate expression to his idea in its entirety, and to evolve out of the living subject the expression in harmony with that idea, must know what he wants and be skillful enough to attain it. Expression may be said to divide itself into two parts. That which belongs to the conception as a whole—its composition, light, shade, etc., and that which the living subject, by aid of the art, energy and intelligence of the photographer, can alone supply, to produce a work of art in photography. The photographer's model must embody in action, expression and form the photographer's ideal, or the production is a failure, or rather a caricature. Therefore the accessories, the costumes and the style, character and figure of the living subject must be strictly truthful and appropriate; the subject must be brought up to the right pitch, bringing the emotion to the surface, and the very swing of action must be caught. To be able to do all this the photographer must be broad, liberal, and well up in science, art, etc. The amateur has a great advantage over the professional in possessing in most cases some knowledge of the sitter's disposition, so that he can judge whether the expression at the time of taking is normal or not. The professional, on the other hand, sees his subject for the first time, and his only resource is in a proper exercise of his skill in reading character by faces, but even here he finds the scope of his judgment limited. Then, again, people are not themselves when they set out with the purpose aforethought to have their pictures taken. The question then arises: Which shall we sacrifice—grace or truth?

EXPOSURE—The submitting of a sensitive surface on glass or other material to the action of light, either in the camera or in a printing frame. To obtain the normal exposure of the plate in the camera, always has puzzled the wisest and most experienced of photographers, and continues to do so. Volumes have been written on the subject, numberless tables more or less complicated have been formulated, and actinometers and photometers presented in full force to solve mechanically the problem which refuses to be solved. If an expert in the art can say: "The time of exposure must often be guessed at in the vaguest manner," is it surprising that this guessing should be so often wide of the mark? Amateurs, as a rule, first err in over-exposure, and are then apt to fall into a worse error—that of under-exposure; in correcting the latter they begin approximately to obtain the prize of a normally exposed plate. With care, observation and calculation a degree of accuracy and certainty is possible of which many have not dreamt. There are many factors entering into the question of the proper time required for a normal or correct exposure. The following may, I think, be considered the most important: The diaphragm, light, time of day, time of year, plate and subject. Intelligent development, of course, enters very extensively into the final results. The rapidity of the lens is governed by its aperture, or the size of the diaphragm aperture, and focus, which is simply a question of the relation the aperture bears to the focus, and is easily determined with the utmost exactitude. If the actinic value of light could be as easily determined as the diaphragm, there would then be only one important condition left for the exercise of judgment—viz., the subject. But we have no instrument from which to read at a glance the actinic value of light, so we have to grope about by estimating the apparent brightness of the light, and then at its photographic value by considering the time of day and time of year. You may, if you choose, describe the light or the subject as very bright (sun or cloud), bright (sun or cloud), bright haze, overcast, dull, and very dull; time of day, two hours after sunrise, or two hours before sunset. The photographic value of light is often very different from its apparent brightness; that, in fact, the light is very yellow near sunrise and sunset. The actinic force seems to be at its maximum between the hours of ten and four in the summer, and somewhat shorter in winter, especially in the afternoon hours. The rapidity of the plate must be given either by the plate-maker or operator with a sensitometer. In the subject there will be found plenty of scope for the exercise of judgment. For as no rule can be laid down as to the position of the sun that will produce the best picture, it may be almost invariably accepted, however, that the sun should not be in the same position as the photographer; that is, with its rays parallel with the lens and the camera. In landscapes a side light is, as a rule, to be chosen, with modifications according to circumstances. As a rule foliage is better rendered without the aid of the direct rays of the sun, and in cases where water forms part of the picture it is almost always so. There is no royal road to the proper attainment of exposure. It is largely a matter of inspiration, of feeling acquired, as it were, unconsciously by experience which has been gained by disappointments, failures, and at last success. There are so many factors to be taken into consideration when any one of the many tables proposed for exposures are employed, that they become so wearisome, not to say perplexing, that but few succeed with them—and their employment certainly leads one from relying upon his previous experience and observation—and as certainly prevents one with but little experience from paying a sufficient attention to his ground-glass, especially in this country, where the character of the light is so varied. The light changes very rapidly in different portions of our country, certainly hourly and frequently in a few moments, so that by the time that the arithmetical sums required by most of these tables is finished, the time required for exposure as per table is not the time the subject requires. The golden rule: "Expose for the shadows and let the lights take care of themselves," be remembered; or if put in the form of a question: How to expose? let the answer be: *Enough so as to impress the sensitive film with the details of the dark shadows.* Long exposure is preferable to relatively long, and when the subject will permit, use slow plates. Some use quick plates with very small diaphragms for ordinary subjects, which I do not think a good plan. Sunlight gives the best effects, not a blue sky, for we all know that we do not always get the best effects under such. A bright gleam of sunshine will frequently make a beautiful picture out of what was, without it, a flat, uninteresting subject, for the sunshine adds brilliancy and especially improves it by varying the focus. Doubtless, special instances occur now and again when the absence of sunshine is advantageous. A shady day is to be avoided. Pictures can be made on such days, it is true, but their quality is inferior; the results are flat shadows, want snap, brilliancy and vim. But enough; the whole subject is an interesting and vital one, and requires careful attention and the cultivation of the power of observation. After considerable experience one will learn to judge as if by intuition, very correctly, all that involves the time of exposure, and become more and more expert; and will also learn how to correct any error or miscalculation in exposures by means of dark-room manifestations. As stated before, there is no real rule for exposure, but there are thousands of chances to do right. Be ever ready to seize these chances when presented, and apply what you know to them; then be assured that your results will surely do you credit.

EXPOSURE BY ARTIFICIAL LIGHT—Dr. Eder states that when 2½ seconds are sufficient for a full exposure in diffused daylight, 6 seconds are required by electric arc-light of 1,800 candle-power. Experiments in this country seem to fix the proportion to be as 1 to 7.

EXPOSED OR NOT?—This question frequently arises with the amateur, especially so if he has failed to register the exposure on one of two plates contained in a double holder. There is a simple way of finding this out without spoiling a plate. If in doubt, cut off with a diamond one of the corners to the depth of ¼ or ⅜ of an inch and develop the small piece, giving it a reasonable time, for the clipped corner might be a part of a very deep shadow, which is the last to be affected by the developer. If the developer has no effect, then, without doubt, the plate has not been exposed.

EXTENSION CONES—Tubes made of thin wood attached at one end to the front board of the camera, having at the other end the lens attached. They are used in copying and enlarging when the length of the bellows is not sufficient to give the required distance from the lens to the negative or sensitive film.

EYE AND THE CAMERA, THE—The eye requires at least $\frac{1}{10}$ of a second to close, so that all separate motions which are quicker than that appear blurred to one looking at them. It can be easily understood, therefore, how a photograph obtained of a moving object by an exposure of $\frac{1}{100}$ or even, as is sometimes done, by $\frac{1}{1000}$ part of a second, while accurately reproducing the exact position of the object at the time of photographing, is not a representation of the subject as it appears to the human eye. It does not convey the idea of motion even, but rather of "petrified motion," as some one has said, and seems grotesque and unnatural. Such photographs, however, give investigators an opportunity, which they otherwise could not have, of studying separate motions, and are often of the greatest value.

Eye, and Light Stored in, The—Some years ago Kühne, the eminent German physiologist, proved that the coloring matter of the retina of the eye was sensitive to light. We now learn that an English experimenter has made the discovery that by looking at an incandescent electric light for some seconds, then shutting the eyes and going into a dark room, he can obtain a picture of the light by simply looking at a very sensitive gelatine dry plate and developing. If this is true, then it may be true that the visual purple of Kühne stores up the light-rays.

Eyes, Our, and Our Work—The camera with its lens attached has frequently been compared to the human eye, and the analogy is very complete. Without going into the description of the eye, which of necessity would be vague and incomplete, it must be remembered that we are dealing with a wonderful and delicate organ. A good workman will be careful of his tools, and it behooves us to be circumspect with such sensitive structures as our eyes. It is not every one who has the good fortune to possess perfect and healthy eyes, and those who do, frequently injure them from carelessness. Civilization does not, certainly, conduce to the maintenance of keen sight and healthy eyes. Some occupations are more trying to the eyes than others, and the photographer is exposed to many inconveniences and dangers. The dark room is a necessary evil with its ruby light, and to mitigate its influence as much as possible, it will be found that a yellow light of a golden hue is the best for both eyes and plate. Shading the light so that it is reflected on the work, but kept from the eyes, is of great importance. Another source of danger lies in the sudden changes from dark to light; and moving from the dark room to daylight is not only painful, but actually of serious moment as regards the eyesight. The iris fails to contract rapidly enough to

(To be continued.)

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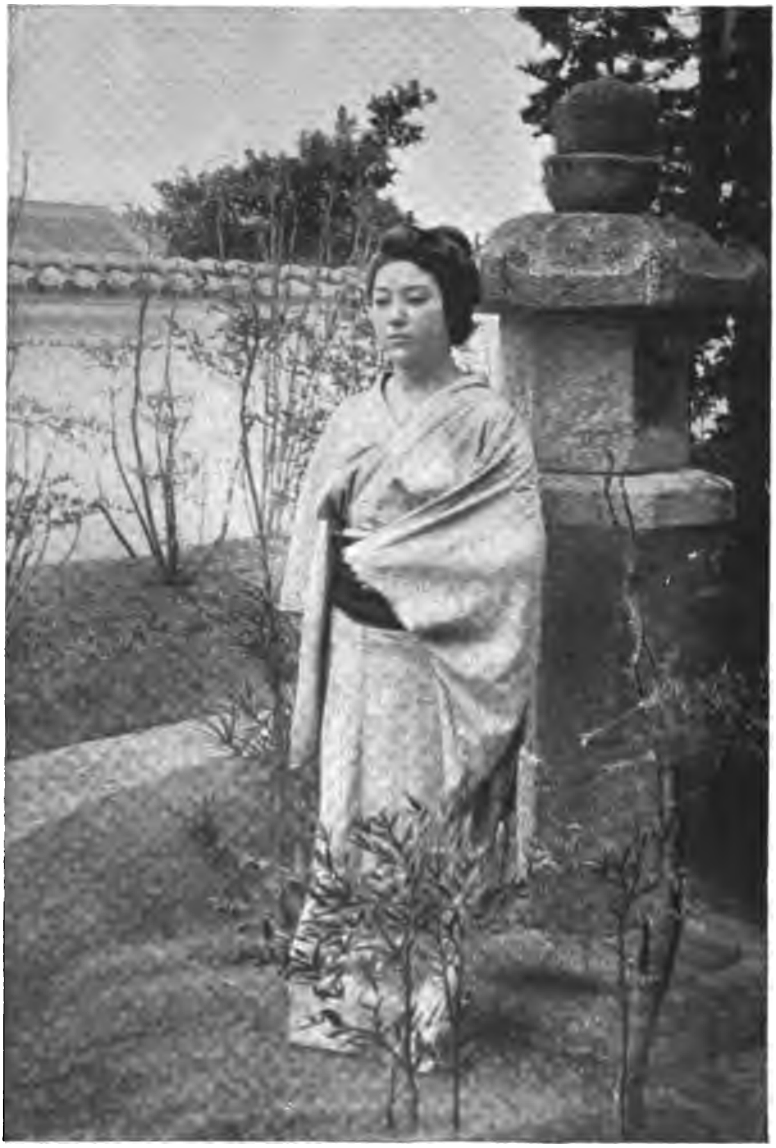

By William B. Post.

JAPANESE GIRL.

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An Outing in the Cloud-Lands of Banff.*

BY ELY VAN DE WARKER, M.D.

AT six o'clock in the morning we leave Banff. There is an icy cold in the air, with flecks of mist on the mountain-sides. Cold as it is, we stay in the observation car, for there are unseen glories of mountain and gorge yet before us. This is the finest bit of road from Banff to Field. The Bow range of mountains is upon the left, thrown into a series of snow-clad summits. First before and then backward you direct your gaze; in either way the spectacle cannot be described in words. It is a wild confusion of towering promontories, in which shapes of every form that rock and mountain can take on a scale of grandeur to almost overpower one are seen on every side. But few of these splendid peaks and ranges are named. This country is new to the foot of the explorer; half a mile beyond the line of the road no one, not even the most daring hunter, has penetrated. We are mounting upward, and at Hector we are over 5,000 feet, and make a turn upon the mighty breast of Mount Stephen, from which point, looking northward, a magnificent valley with snow-clad peaks and glaciers upon either side. This is an unknown valley, and leads no one knows where. If you were to explore it you would probably never return to tell its wonders, for it is almost lonely in the summer time, the scene of frightful avalanches of ice that sometimes plunge downward from vast heights over perpendicular cliffs.

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*Continued from the September number.

Here we strike the Kicking Horse Pass. It is a chasm between the Otter Tail and Beaver Foot ranges. The canyon grows deeper, and down into its depths the line of rails boldly descends. It curves around projecting promontories. It crosses vast clifts on spider-like framework. The rock closes in as though you were to be compressed in a vice. The sky is nearly shut out, and yet from side to side you go upon a train that reels as though it were drunk, while the roar of the Kicking Horse and of the train mingles in a multitude of echoes. You do not see it all even from the rear platform. At a moment when you are actually holding your breath from the terrors of the gorge, you dart into a snow-shed, and the view suddenly disappears. Some of them are of great length; others are short, but only a few hundred feet between. But a great deal of the grandeur and beauty is lost, and the only thought that reconciles one to the loss is that without them the line could not be kept open at all. As the train emerges from the pass, you see before you the splendid rampart of the Selkirks lifting a line of ice-clad peaks in orderly array high into heaven. At this point you are one hundred miles from the headwaters of the Columbia River, in a number of beautiful lakes, to which a steamer makes weekly trips.

Glacier House is a very comfortable hotel, built like a Swiss chalet, where all the passengers are fed, and those who wish to stop over to see the glories of the Selkirks are well cared for.. It is one of a series of hotels built and maintained by the railway company, that begin at Banff and end at Vancouver. It is a very cosmopolitan place, and people of many nations and from very distant places were sheltered under its roof the night we spent there. In the hurried way I am describing our trip it is impossible to give an adequate idea of the place. The line of rails has just emerged from Rogers Pass to begin the wonderful series of loops in which the line reaches the bottom of the canyon of the Illecilliwart River. The hotel is only about one and a half miles from the foot of the Great Glacier of the Selkirks, a mass of ice supposed to equal the combined glaciers of the Alps. A trail that follows the foaming river of whitish water has been made to the glacier's foot. Alders, Douglas firs, spruce and birch line the way; but a short distance brings you to the evidences of avalanches that have cut their way through the forest. The trail leads in many places across the torrent, upon rustic bridges. These natural openings through the dense growth of trees give beautiful views of distant snow-covered mountains, with here and there a glacier plunging into some deep ravine.

If it were possible to conceive of congealed motion, of irresistible power, arrested and held in suspense by the silent and aggressive potency of frost, this magnificent glacier would realize the conception. It may be that because one *knows* that it is moving, and that here you are in the very presence of an agency that has scarred and serrated nearly the entire surface of the earth, that you stand in awe of an unseen, unfelt power. The approaches and surroundings contribute to the effect the glacier causes. The trail up the valley winds through a dense forest of alders, spruces and Douglas pines, with here a glimpse of a snow-capped crest and there a new view of some receding valley; every now and then you cross the track of some vast avalanche, with great trees torn out of the ground, their roots high in the air, where the trunks are literally stacked up, splintered and torn. You pass the timber-line and come to a zone of the utmost desolation. Vast bowlders, some as large as houses, but everywhere stones, large and small, worn smooth and rounded, among which the path winds. This is an ancient bed of the glacier, and this the pavement left as a token of its power. The mountains inclose you here; the trail has led you into a vast rent, torn by the action of the ice through the ages that have past and left no other trace. The crags, black and perpendicular, project into the narrow valley, and in places seem to overhang it. It is down these awful declivities that the avalanches sweep at their proper season, when the masses of snow and ice ripen under the sun. At last you near the glacier-foot and can look up its gentle slope. It would look so easy to climb. Now and then a tourist has been seduced by this gentle slope to make the attempt, but he has reappeared after a few hours' absence with a look of horror upon his face, and too rightened to give a lucid account of his adventures past chasms and cre-asses reverberating to the rush and fall of water. Crumbling bridges and rêtes of ice beset the climber everywhere, and, once entangled in the maze of dangers, it seems almost impossible to retrace the route. An im-

GREAT GLACIER, B. C.

mense volume of water pours out of a cavern at the foot, and from where we stood we could look into the blue depths of ice. The Rev. Wm. S. Green has written a delightful book upon the glaciers of the Selkirks, and even so experienced a climber as he was obliged to flank this splendid body of ice. I should judge it was about three miles in a direct line from our point of view to the sharply defined summit of Sir Donald, upon whose mighty torso this mantle of ice, eight hundred feet thick, slowly scored its way. I stood that night before the Glacier House and saw the full, round moon mount over the snow-white crest of the Great Glacier. What by day appeared soiled and blackened with the debris of rock, gleamed snowy-white and glistened like mother-of-pearl. The uttermost crest of ice seemed to be translucent and glowed with a fringe of irradiant light, and when the orb had mounted the crest the vast incline gleamed with softened luster, like a drift of freshly fallen snow. Mighty mountains were clustered about, uplifting upon unattainable summits mantles of snow and cornices of ice, all throwing back the moonlight with crystalline brilliancy, and this stately congregation of mountains was vocal with the crash of falling water from the melting ice and snow. All night this mighty diapason resounded like a litany, until in the gray of morning the power of frost, always the ruler of earthly forces here, turned the cascades into ice and silence that covered the mountains like a garment.

The reader may not be aware that, beginning from the Arctic Circle, a line of glaciers are strung along the backbone of the continent almost to the torrid zone. From summit to summit, for thousands of miles, these caps of ice can be seen strung in nearly a straight line, like pearls upon a string. Across Central America there is a break, with here and there a peak lifting a protesting crest almost into the altitude of eternal ice. Upon the Southern continent the continuous line of ice again begins to end in the endless winter of the Antarctic. What can the cause be other than that here is the oldest part of the visible surface of the earth—as the crust cooled and shrank, and threw up this mighty spine as a nucleus of a habitable world?

We only spent one day at the Glacier House, when we were obliged to leave in compliance with the inexorable demands of a limited ticket. The Rev. Mr. Green spent weeks here, and was only able to add but little to our knowledge of this unknown region. From his testimony it is evidently the most difficult place for mountain-climbing in the world. At Albert Canyon, just after leaving Glacier, the train makes a stop, so that the passengers can look into the gorge of the river. From solidly built balconies you can look downward about 500 feet into a cleft but 20 feet wide, at the bottom of which the river tears itself into snow-white foam.

The next point of interest and grandeur is the Thompson Canyon, 280 miles from the Selkirks. It is known as the Black Canyon, and a truly weird passageway it is. But this only leads up in effect to the grand canyon of the Fraser. The Thompson River has joined the Fraser, which is now a mighty stream, and is cutting its way through the Gold range of mountains. The general level of the road is about 200 feet above the stream at some places, upon benches cut into the face of the clift, and at others threading tunnels or winding from side to side of lateral ravines. The canyon widens out in places into fair stretches of peaceful river, and then for miles narrows into a simple rent between vast clifts, with the river raging like a demon far below, or hurled back bodily in mountains of foam from the face of some abutting clift. Through re-entering gorges, romantic views of mountain peaks may be caught, some clad in dark forest and others with crests of glittering snow. There is one feature of the canyon that contends for attention with the sublime scenery and gives it a peculiar human interest. This is the old government road. For nearly the whole distance of twenty-five miles it follows the wall of the canyon opposite to that of the railway. In places it is cut into the side of the clift, and descends to the level of the river, or mounts up a thousand feet. In many places it is projected from the side of the perpendicular rocks upon frail timbers. It is evidently abandoned, for in many places the supports have fallen away, leaving impassable gaps, with nothing but mad waters below. This is the roadway that has been followed for generations by the hunters and gold-seekers that alone made up the white population of British Columbia until the railway opened up its riches of mine and forest to the world.

SUSPENSION BRIDGE AT SPUZZUM, B. C.

The rails follow the river to the coast, but the grandeur that attracts the tourist ends at the canyon; the interest and novelty, however, never abate. To the sporting readers of THE AMERICAN AMATEUR PHOTOGRAPHER it may be of interest to know that they go fishing for salmon on the Fraser with a scoop shovel. The fisherman stands in the shallow rifts of the river and scoops them into a boat. The fish lack flavor, and are dry and thin, and in no way resemble the delicious salmon of the Kennebec except in the color of the meat.

At Vancouver we bid good-by to the Canadian Pacific Railway. For 800 miles we had passed over a scenic route not equaled upon earth. Nature may show more stupendous grandeur of mountain, ice and gorge in many places, but nowhere is there a line of steel that takes you to it and through it in luxury and safety for a distance equal to this. There is one thing that holds the attention of the observing traveler about this splendid road, and that is the human element involved in its construction ; and this element implies neither the shovel nor the pick, but the skill, courage and fortitude that discovered its marvelous route and overcame the almost superhuman difficulties of the way.

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Why Stereoscopic Prints are Transposed.

REFERRING to this subject in our previous number, published as described in the *Scientific American,* we have been advised by one or two correspondents that the views in Fig. 1 were not rightly placed, but were reversed as regards the true positions observed by the eye. We accordingly reproduce the cuts again, corrected, which shows more plainly the reason for transposing the prints. In rotating and inverting each view in its own plane, as appears in the camera, they are transposed as seen in Fig. 2, which is also the way a print appears from the negative. To put the prints in the right position, as in Fig. 1, they must be cut apart and transposed, as shown in Fig. 3. L is the view observed by the left eye, and R the one by the right eye.

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PERSONAL.—The committee having in charge the photographic congress to be held in Chicago during the World's Fair have received favorable responses to their invitations to prepare and deliver addresses from some of the most distinguished persons in the art science of photography in the principal cities of the world, among whom is Catharine Weed Barnes, one of the editors of THE AMERICAN AMATEUR PHOTOGRAPHER, who will deliver an address before the congress upon "Amateur Photography." In writing to the committee, Miss Barnes says: "There is great interest being taken in the exposition all over England, and considerable feeling has been expressed to me on the subject of the use of cameras there by amateurs. It is going to hurt us very much in foreign eyes if this matter is not treated liberally by the authorities. During my English trip I have met a great part of the leading English workers, and they are practically unanimous on this subject."

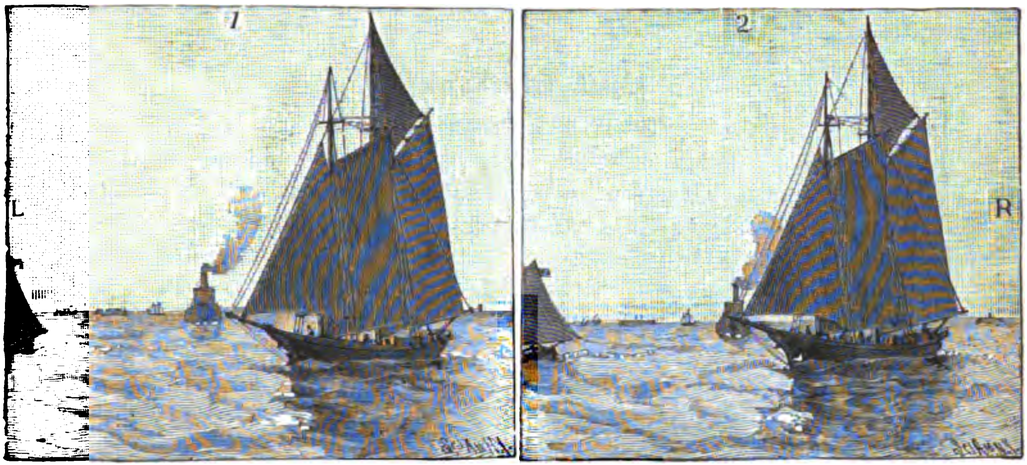


FIG. 1. The View as Seen by the Eyes.

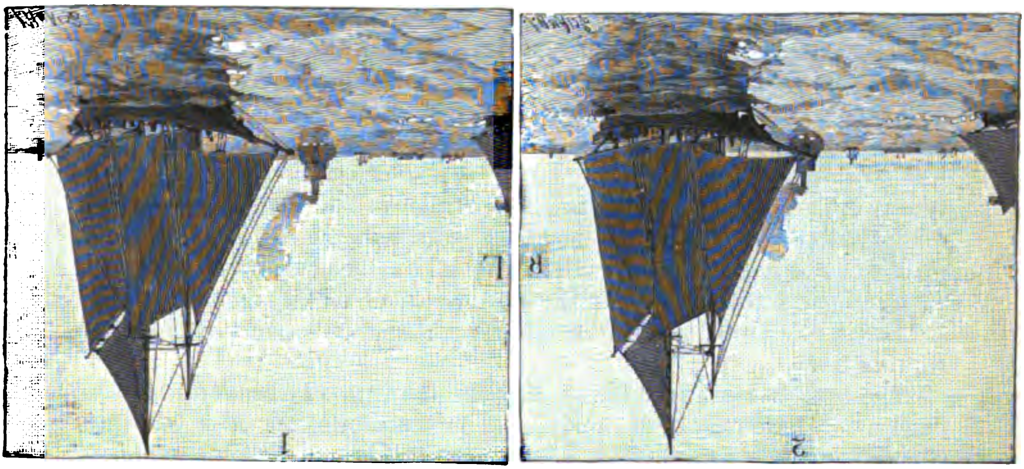


FIG. 2. The Inverted Images as they Appear in the Camera and Negative.

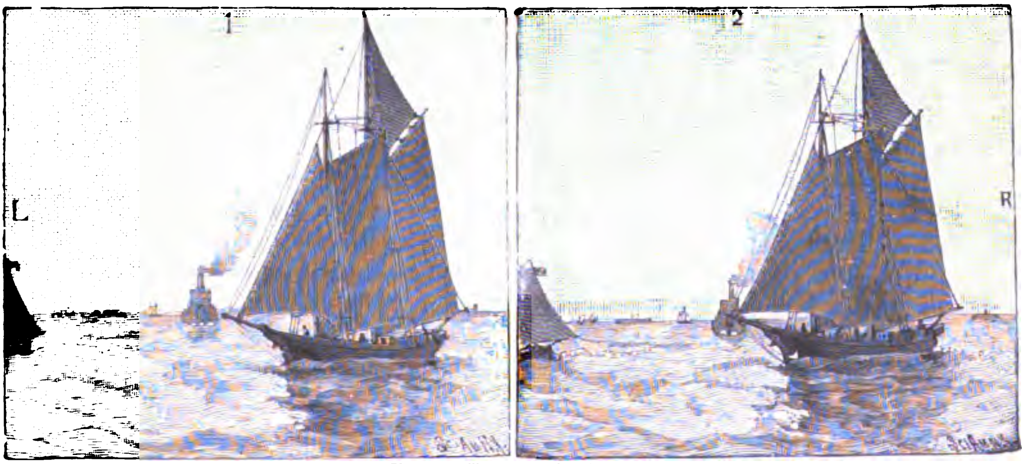


FIG. 3. Transposed Prints.

Club Sketches.

HOBOKEN CAMERA CLUB.

ORGANIZED in March, 1889, a few years after several of the older active clubs in the vicinity of New York, the club began its work in an unpretentious way in a small room on Washington street, in Hoboken, where competitive exhibitions and much useful work was done. Successful exhibitions were afterward held once a year, accompanied by social features, such as music and dancing, which made the club quite popular. A peculiarity in its first by-laws was the provision for the election of officers once in six months, so that any laziness on the part of those in authority could be remedied by the election of more active men.

As interest in the club grew several influential and active men became members, and, as a consequence, a movement to secure larger quarters resulted in the purchase of the present very commodious building at No. 1036 Park avenue, Hoboken, in 1890—worth, with the lot, nearly $27,000—for a sum very much smaller. The building and lot is the largest permanent home owned by any photographic organization in the United States, which is, perhaps, very surprising for such a young club. But this result was accomplished by the willingness of two or three monied men to advance the purchase money and take a mortgage on the property as security, relying on the income of the membership dues to pay the interest. The plan, so far, appears to work well. Though the membership is but forty, enough income is derived from the dues, rental of lockers and of the hall, and other privileges, to meet the interest charges and save a little for the sinking fund.

The club became incorporated, under the laws of the State of New Jersey, in December, 1889, and, after moving into the new building, adopted, on February 3, 1891, a new constitution and by-laws, arranged to conform to the requirements of the situation.

Briefly, the points of interest in the by-laws are that the club is organized to promote the practice of the art and science of photography and the encouragement of social and friendly intercourse among its members. The capital stock is fixed at $15,000, represented by two forms of certificates of indebtedness: interest-bearing, represented by the bond and mortgage upon the real estate owned by the club, and interest-bearing stock certificates; also non-interest-bearing certificates, owned by members of the club only, and not transferable.

Persons elected as active members must own $10 worth of the non-interest-bearing and non-transferable stock, which money is turned into the sinking fund provided for the gradual redemption of the interest-bearing certificates, and consequent reduction of the indebtedness. In addition to the $10 worth of stock, the applicant is required to pay an entrance fee of $5. There are two other classes of membership: associate and honorary; associate pay $1 per month dues; active, $1.25, and honorary are supposed to be professional photographers. Applicants for active membership are required to own a camera and practice photography as an amateur. Associate members need not practice photography.

The club is managed by a Board of Governors elected annually in March. No person younger than eighteen can enter. The duties of the several officers are specifically defined. The treasurer has to give a bond of $500, pays no bills unless approved by the Board of Governors, is obliged to render monthly reports, and detailed reports when called for. Special committees are provided for, and a custodian is given charge of the property of the club.

How the space is utilized is seen in the illustrations and diagrams accompanying this article. One view shows the front of the building, which, it will be noticed, is of brownstone, three stories high, and has an iron rail balcony in front of the first story. When purchased the house was fitted up as a dwelling, but many changes were made in the interior to adapt it to the club's uses, costing, it is said, some $3,000.

EXTERIOR HOBOKEN CAMERA CLUB

On the right of the front, close to the side wall, is observed an extra entrance, which is for the custodian, and runs through the building to the rear, separate from the main hall. Entering the front door — on which, in gilt letters, are the words "Hoboken Camera Club" — we come into a spacious hallway on the first floor, directly to the left of which is the reception-room (see plan of first floor); to the rear of this is the billiard-room, and to the right of this is a buffet and wash-room, from which refreshments are served. It will be noticed that a smaller building is in the rear of the main building, the two being connected by a small hallway. On the first floor the rear building extends out farther than on the second and third floors, and supplies three living-rooms for the custodian or janitor.

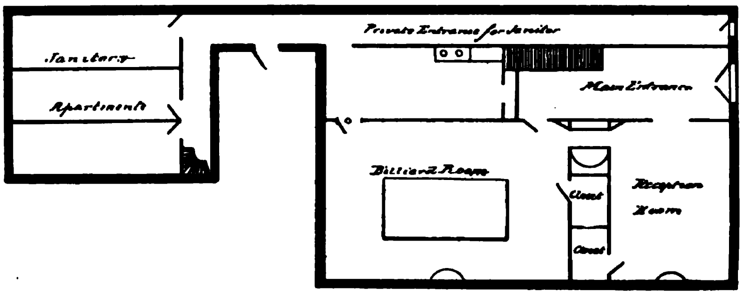
Passing up the front-hall stairs, we are ushered into a very nicely finished meeting or assembly room (see plan of the second floor), with a fine hard-wood floor, equipped in one corner with a screen about ten feet square and in the other with a piano. The room has a clear space nearly of 30 x 50 feet, and is ventilated by three windows at each end. One or two frames of photographs hang on the walls. To obtain so much clear space a cross-partition was removed, and the floor above suspended on rods hung from a truss arranged on the roof. We were informed that it was regarded as one of the best small halls in Hoboken. On this floor the rooms in the rear building are used as hat and cloak rooms for gentlemen. The hall is frequently rented for social gatherings and dancing parties.

Passing by winding stairs from this floor to the third floor (see the plan of the third floor) the photographic section of the building is observed. As the hall is reached a series of lockers line the side opposite the landing of the stairs, while on the other side is a piano to gratify those having musical talent. In front, on the left, is a ladies' hat and cloak room, in which is seen the large enlarging and reducing camera. The front of the building faces east. A large pane of ground glass is inserted in the window, for diffusing the light entering the camera; this, it is said, operates as well as if the camera were pointed to the north sky. The adjoining room is the library and social room, where the governors hold their board meetings. It is furnished with a large table, rugs and numerous comfortable easy-chairs.

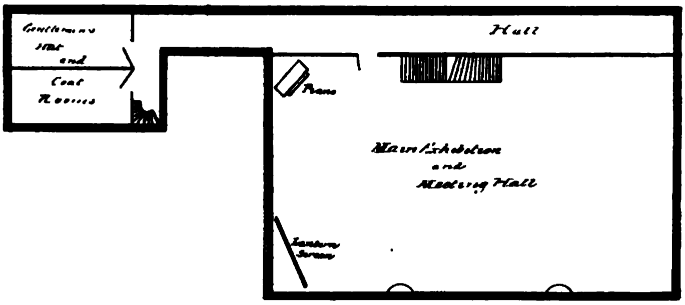
MAIN HALL.

F. A. MUENCH, PRESIDENT OF THE HOBOKEN CAMERA CLUB.

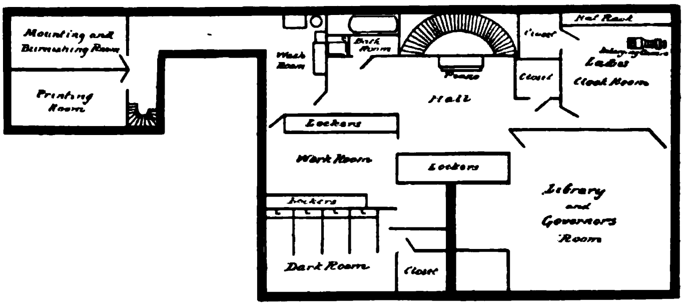
In the rear part of this floor is the dark-room, built on the stall plan, with a winding entrance, and fitted up with four separate sinks. The gas-jets outside, in front of each window, are regulated by a faucet inside. In front of the dark-room is a general workroom, having numerous lockers on the wall, and also a row of lockers adjoining the dark-room partition. Adjoining this room is a wash-room, containing ample sinks for washing plates and prints, a kitchen stove for heating water, and boiler in the corner. Near the hall, extending toward the front, will be noticed a bath-room and closet. In the rear building, connected by a narrow hallway and short steps to the wash-room, are two rooms, one used as a print-



PLAN OF THE FIRST FLOOR.



PLAN OF THE SECOND FLOOR.



PLAN OF THE THIRD FLOOR.

ing-room and the other as a mounting-room. A separate stairway runs up this building at the outer end of the transverse hallway, forming a rear stairway. Back of the building there is quite an open yard. The total depth, including the two buildings, is 100 feet, while the width is about 35 feet. The expense of alterations was so much that no money was left for the building of a skylight, that being one of the future possibilities.

It was at this club-house that the New Jersey State Division of the American League of Amateur Photographers recently met and were most cordially entertained by the Hoboken club. The visiting photographers were agreeably surprised at the excellence of the accommodations and the size of the rooms. The club has become a member of the League Lantern-Slide Interchange, and started a set of slides out in circuit early in December. Since its organization in 1889 it has elected four different presidents. The first was William Allen, now no longer a member ; the second, George E. Mott ; the third, A. J. Thomas, and the fourth, the present president, F. A. Muench, whose portrait will be found on another page. The other present officers are : Vice-President, A. L. Smith ; secretary, George H. Steljes ; treasurer, Henry J. Kaltenbach. President Muench is also a member of the Executive Committee of the American League of Amateur Photographers and of the same committee in the New Jersey Division. Outings are made by members in the summer months, and are generally well attended. Very much of the success of the club has been due to the personal work of Mr. Muench as its former secretary and now president. He is an expert photographer, taking great interest in many branches of the art, and in a former competition for photographic tours under the auspices of this magazine, secured one of the prizes. Under his leadership the active, practical work of the club has been greatly promoted.

Altogether, the club is in a prosperous condition, and is popular with the people of Hoboken.

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WOMAN'S WORK FOR THE FAIR.—Miss A. B. Swayne, of Kennett Square, has been appointed to take photographs of the finest farms in Lancaster, Bucks, Montgomery, Delaware and Chester counties for the agricultural exhibit at the Chicago Fair. This is a responsible and difficult duty. Miss Swayne's territory covers the garden spot of Pennsylvania, and besides the purely agricultural purposes of the exhibit which she will make, she will have an opportunity to illustrate the history of that section of the State, for some of these farms, like those of Anthony Wayne and Bayard Taylor, have more than an agricultural fame.—*Philadelphia Inquirer.*

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From Mr. George C. Conklin, Matteawan, New York, we have received a curious photograph of lightning, made early in August. The streak is quite remarkable as being very large, and runs almost in a direct horizontal line across the plate. There is a black, slender streak running through the centre of the flash, which is very peculiar. He says the negative was not retouched, and that, at the time of the flash, a tree was struck half a mile from his residence. He sends, also, a pretty view of a creek and waterfall near his town, and has our thanks for both.

The Heliochromoscope.

ALTHOUGH photography in colors is not yet an accomplished fact, and although none of the experiments encourage the hope of its early accomplishment, yet by a very interesting, ingenious method and device invented by Mr. F. E. Ives, of Philadelphia, photographic pictures are shown with all the colors of nature. These wonderful effects are secured by means of photographs taken on orthochromatic plates through selective color-screens. Three such pictures are taken on one plate, each one representing one of the primary colors. From the triple negative thus obtained a positive transparency is made by contact, each picture and its several portions having the true color-values. The partial images are identical as regards point of view and size, each one, however, being transparent or semi-transparent only in those portions which represent the fundamental color belonging to the partial image. According to the modern theory of color-vision, red, green and violet are considered the primary colors; consequently the three pictures represent these three

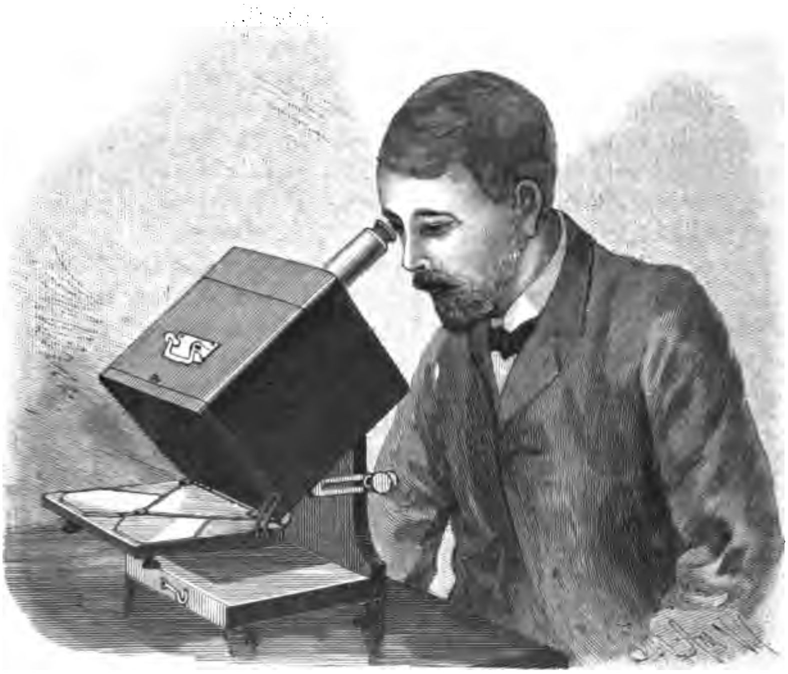

FIG. 1.—HELIOCHROMOSCOPE.

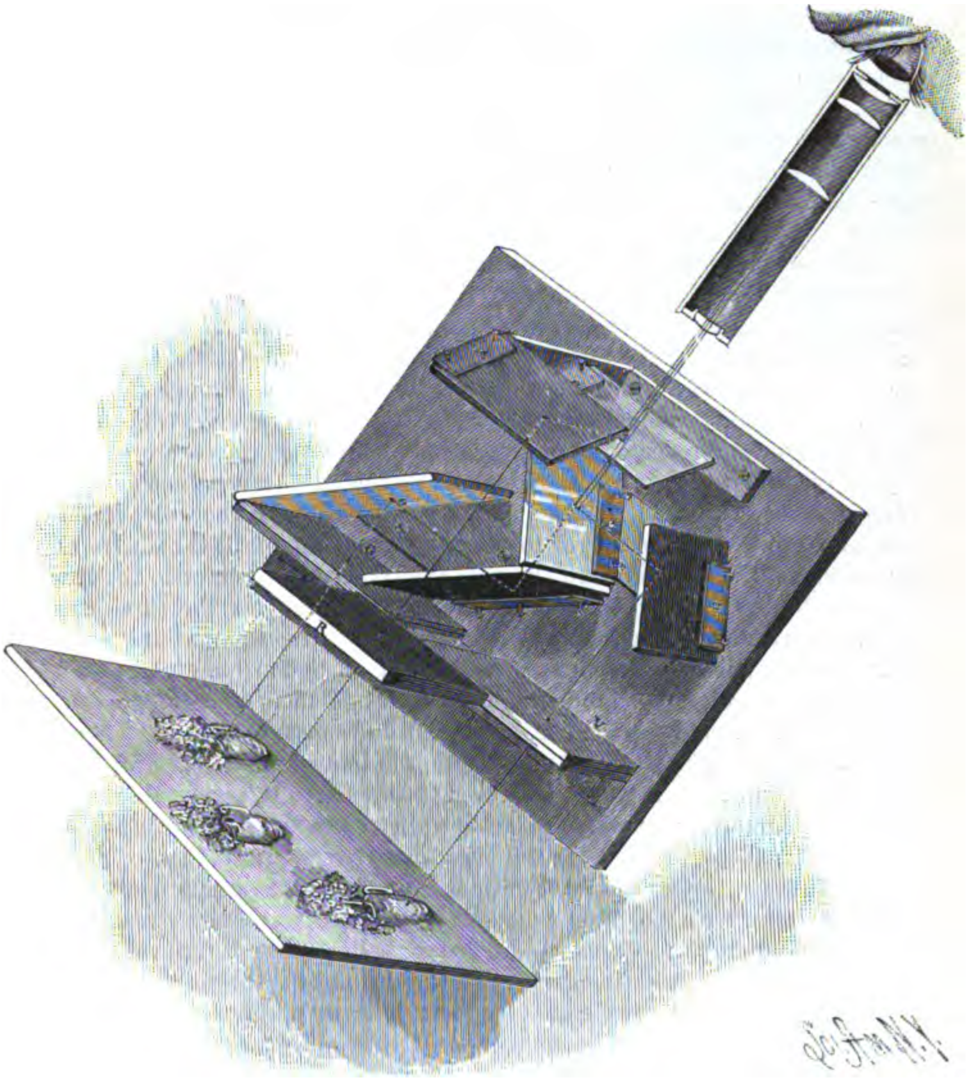

FIG. 2.—SECTION OF HELIOCHROMOSCOPE.

colors, and when viewed through an instrument provided with red, green and violet colored screens, and furnished with means for blending the three images into one, all the colo~~rs of th~~e subject are shown.

The simple instrument by which these pictures are superimposed is shown in Fig. 1, and the arrangement of the internal parts is shown in Fig. 2. In the lower part of Fig. 2 is seen the triple transparency, or "chromogram," as the inventor chooses to call it. Above the three images are arranged three colored screens, marked R, G and V. The image below R is transparent to red, but opaque to other colors, except in so far as it enters into combination with the other colors to produce intermediate tints. The same is true of the image below the colored screen G, this photographic image being transparent to greens, and to other colors only as green combines with other colors to produce intermediate shades. The same also applies to the picture under the violet screen, it being transparent to violet and opaque to the other colors.

After passing the colored screens the images are superimposed by a series of transparent and opaque mirrors. By following the line of the light-beam passing through the red color-screen, it will be seen to impinge on an opaque mirror near the top of the instrument, whence it is reflected to the upper surface of a transparent mirror, thence upward through the eyepiece. The light passing through the green screen is received on an opaque mirror and reflected to another opaque mirror at the centre of the apparatus, from which it is reflected through the two transparent mirrors above it to the eyepiece. The light-beam passing through the violet screen is reflected by an opaque mirror to the transparent mirror at the centre of the instrument, thence upward through the transparent mirror to the eyepiece. Thus by means of opaque and transparent mirrors the three colored images are superimposed, and by means of the transparent and semi-transparent portions of the picture the amount of light from each portion of the image requisite for producing the colors and their gradations is thus made to pass through the screens, mirrors and eyepiece to the eye. A reflector is placed underneath each photographic image, so that each receives its quota of light. The effect produced is wonderfully beautiful, giving every color and every possible gradation of light and shade as faithfully as the object itself would do under the most favorable circumstances.

The inventor states that the chromogram is a photograph made in a special camera, with no more operations than are required to make an ordinary photograph ; so that we are led to believe that before very long amateurs having the special camera and the instrument through which to view the pictures will be able to show pictures in natural colors as readily as they can now show stereoscopic views. Mr. Ives, by means of different apparatus, has projected photographs in colors on the screen where they could be viewed by a large number of spectators. It is an interesting fact that a triple negative placed in the instrument in place of the positive, shows colors complementary to those belonging to the object.—*Scientific American.*

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AN ADIRONDACK TRIP.—On the evening of November 16th Prof. R. S. Stoddard, of Glens Falls, gave an exhibition of lantern-slides before the Sunday-school of the Union Church in Newburgh, illustrating the Adirondacks and the Hudson from its source to the sea from views he had taken. Many of his views are very picturesque, and it is said the entertainment was quite interesting.

The Relation of Art to the Lantern-Slide.*

BY HENRY J. NEWTON.

THE subject which I shall treat this evening will be, in the main, "The Relation of Art to the Lantern-Slide." That there may be no misunderstanding of what I may say, or misinterpretation of terms used, I will, in the first place, define as fully as seems to me needful, what I mean by the term "artistic" in its relation to and bearings on the subject under consideration.

I shall try to avoid assuming a dogmatic position by asserting that my way is the only way; that all who may differ from me are ignorant and idiotic.

The fact is that the interpretation of the word "art" is very flexible, and becomes quite apparent when we attempt to compare it with the interpretation of the word "science." In the latter we must have certainty by demonstration. In art the element of certainty can hardly be said to exist except in the minds of the advocates or leaders of certain schools. Modern art, in civilized countries, is in the main the product of educated and cultured sentiment, and sometimes, when at its best, compares unfavorably with the artistic work of so-called pagan nations.

In metallurgy the Japanese surpass in artistic work that of any European nation or people, but in landscape drawing they are as conspicuous a failure as they are a success with metals, pottery, porcelains and textile fabrics. This is due to their ignorance of a scientific principle in nature, which is the arbitrary law of linear perspective; and this is about the only point where science and art clasp hands.

It seems to me that in defining art it should, as a rule, be done in general rather than in specific terms. There can be no specific rule for coloring a landscape. A rule which would dictate to every landscape artist precisely the same pigments, or compounds of pigments, to be used invariably in coloring specific parts of the same view, would be impracticable.

The reason why this is impracticable is because one of nature's immutable laws forbids it. Nature seems to possess the omnipotent capacity of producing infinite variety in the same species, and she exercises this power to the fullest extent in her production of the optic nerve in the human being with sensation and perception. No two artists see or depict with precisely the same colors the same view.

The methods of each are as distinct from the other as their handwriting, and are as difficult to counterfeit. The artist who succeeds in representing form and color as the cultured majority see it, becomes the popular artist.

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*Read before the Photographical Section of the American Institute, December 6, 1892.

The senses which respond most readily to the allurements of art are seeing and hearing. Such artistic effects are usually distinguished as "fine arts," to separate them from the "mechanical and useful arts." The sense of seeing is the one involved mainly in the subject before us this evening. What charms the tympanum is the harmonious blending of atmospheric waves.

At the present time I am not trying to interest you through that avenue of sensation, and am making no effort to produce pleasurable artistic sensations by draping my thoughts in eloquent language and presenting them through an expert elocutionist, which would produce artistic effect, but shall address myself to the sense of seeing, which sense is the result of waves of a much more subtle agent than the atmospheric waves; and the sensation of color is largely the result of the blending of these ethereal waves, and whether the effect on the nerves be one of pleasure or pain depends upon whether the blending be harmonious or inharmonious, the same as results to the sense of hearing when musical notes fall upon the ear, and whether the sensation be pleasurable or painful will depend upon the fact of whether the atmospheric waves unite harmoniously or discordantly.

I hold that anything which produces unpleasant or disagreeable sensations cannot be artistic, and, further, that which produces pleasurable sensations without producing weariness is the most artistic.

There may be artistic sensations produced by a loud clanging and banging of musical instruments, but the senses soon tire of it and seek relief. The popular and orthodox lantern-slide has just the effect on my optic nerve which noisy music has on the nerves of my ears, and under an hour's strain my optics become tired and rebel. This should not be so. The fault is of long standing and originated in the early days of photography, in consequence of certain notions entertained by professional photographers. Artists of that time treated photography with ridicule and contempt; a petty warfare was kept up between the artist and the professional photographer. The photographer who could make a photographic picture became inflated with exaggerated notions of his importance, and just in the degree of popular favor awarded to photography the artist's jealousy was increased and expressed.

The mistake which the early producers of lantern-slides made was the ignoring and ruling out atmosphere from the slide; absolutely clear glass was the fatal dogma. This was purely a photographic notion and unartistic to the last degree. Aërial perspective is almost, if not quite, as potential and necessary in a landscape painting as linear perspective. The supreme effort of a landscape artist is to reproduce nature, and to do this he must paint atmosphere No photographer can make a perfect negative of an out-of-door view without photographing atmosphere; the longer the distance photographed the more atmosphere. If a negative should have atmosphere represented in order to be perfect, it follows that a lantern-slide made from such a negative, to represent it should represent *all* the atmosphere in the negative. If this be so, it follows that a dry plate which will make a *good* negative, will, with the same careful manipulation, make a good lantern-slide. This seems quite a rational theory, although it is radically heterodox. Yet dogmatic notions, whether antique or modern, have to, in the long run, submit to modification and change when assailed by *demonstrated facts;* and the slides which I shall exhibit this evening will mainly be for the purpose of demonstrating the correctness of the theory just advanced. These slides have been made, as a rule, on the most sensitive plates in the market. Special plates usually used I shall only exhibit for the purpose of illustrating the point at issue.

I will not deny that there may be cases where a very thin negative without much contrast is used in which a special plate would succeed better than a quick plate; but my way would be to strengthen the negative and use the quick plate. The modern lantern-slide has become one of the most useful products of photography, and, in its adoption to illustrate lectures, almost a necessity.

There is scarcely a limit to its use in this field, and it frequently happens that the viewing of slides used on such occasion, produces more pain than pleasure because of defects in their production.

The amateur photographer of the present is a devotee of the lantern-slide; after becoming able to make a respectably good negative his effort is to make with it a good slide, and I would not say a word to discourage him or her. Working at any photographic problem, in my opinion, is healthy mental exercise. It necessitates contact with scientific problems, which creates a thirst for more light, and inspires a longing and desire to become more familiar with nature and her methods. The negative and the positive are alluring lights that beckon the student on, torches that illumine the way, prophetic voices that promise reward for diligent labor and patient toil. They are nature's representatives and they bring you in close communion with some of her mysteries, and you are led to realize that just out of your reach nature conceals a golden key with which you could unlock some of her secret chambers if obtained; and she points to the past and shows that the ones who have obtained the magical keys have been the diligent ones who by toil have earned the privilege of culling a few jewels from her great storehouse. I believe there is nothing better for the ethical and intellectual growth than to become interested in scientific and artistic studies. I would not say a word which would tend to cool the ardor or enthusiasm of the investigator of nature, but would use my influence as far as possible to inspire and encourage.

The wonderful advance made in the present century causes the question to be frequently asked in reference to the future, whether we have not obtained about all of nature's most valuable secrets, and if there is any probability that the next century will, in any respect, be as wonderful as the one that is passing away. From my point of observation my answer would be that we have just commenced; we have not as yet learned the first letters in the alphabet which tells of the possibilities and powers of human reason, and have not even entered the vestibule of the great temple of knowledge.

There is everything to encourage those who are enamored with the investigation of the great problems that surround us on every hand. What we know when compared with the unknown, is like a few grains of sand compared with the sand on the shores of all the seas and oceans; so to the young or to the old I would say: *Go on;* an infinite field is before you.

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Diamidophenol—(Amidol).

BY P. C. DUCHOCHOIS.

DIAMIDOPHENOL has been introduced in photography by Messrs. J. Hauff & Bogish. The compound, "Dr. M. Andresen's amidol," is said to be patented.

It is one of the substitution products derived from benzine which were pointed out by the brothers Lumière as having reductive developing properties.

In a remarkable and most instructive communication which, some time ago, was published in the bulletin of the *Société Française de Photographie,* it was shown by Messrs. Lumière that it possessed these properties. A hydrocarbon of the aromatic series should contain in the aromatic nucleus at least two hydroxides, or two amidogens, or one hydroxide and a group of amidogens, and they should be in ortho or para position. Diamidophenol stands in these conditions; thus:

$$C_6H_6\left\{\begin{array}{l}\text{OH (1).}\\ \text{NH}_2\text{ (2).}\\ \text{NH}_2\text{ (4).}\end{array}\right.$$

In photo-actions diamidophenol behaves with great energy and (which is not possible with other developers) without the intervention of the hydrates of the alkali metals or their carbonates. This peculiarity would be very valuable indeed if its action could be controlled at will, as that of "pyrogallol in presence of alkaline compounds," but our present experiments lead us to think it is not the case.

The accelerator is the normal neutral sodium sulphite, Na_2SO_3; the restrainer, potassium bromide.

Potassium ferrocyanide is said to act as a moderator, aiding to produce density and more clear negatives. We did not find any special advantage in using it. We must state, however, that we tried it incidentally, our experiments being entirely directed toward studying the behavior of diamidophenol without association with other compounds, other than the sulphite accelerator and the usual restrainer, potassium bromide. The compound of diamidophenol we employed in the experiments is the hydrochlorate. Without entering into the details of the experiments, we will state the results of our observations:

1. Diamidophenol hydrochlorate is very soluble in water; its reaction is strongly acid, and it oxidizes in contact with the air, the solution turning deep red brown. *Per se* it does not develop the latent image.

2. Its developing property is evolved by the normal sodium sulphite, which neutralizes the acidity of the solution, and also prevents it from oxidizing for a certain period.*

We found that a developer having a slight acid reaction acted with great energy, and developed the image, with its details, in a few seconds. To obtain density the proportion of sulphite should be increased.

3. By excess of sulphite the developer partly loses its reducing property; the details hang back, and there is a great tendency to fogging.

4. Whatever may be the composition of the developer, it is prone to produce in the beginning of its action a superficial veil, not exactly impairing the negative, however. This is prevented by adding to the solution a small quantity of potassium bromide.

5. The image generally appears with the details in a few seconds when the developer contains a small percentage of sulphite, and does not afterward intensify in proportion to the starting action.

6. The image intensifies more slowly as the exposure is shortened, or is instantaneous.† For example, the moment the details are developed the density proceeds slowly, unless the developer is strong; but then the density of the lights is not in relation with that of the half-tints.

7. If the photo-film has been fully impressed the intensification progresses regularly and quite well, but when the photo-film has been underexposed, or nearly so, if the details hang back for a certain period, the parts slightly impressed are liable to fog.

By instantaneous exposures we did not obtain as good results as we expected. But the sun now being very low on the horizon, the light is yellowish, not as actinic, and therefore does not rapidly impress the photo-film.

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*Sodium bisulphite, $NaHSO_3$, impedes the developing action. The normal salt has an alkaline reaction.

†By "instantaneous" we mean impressions which have received the minimum of exposure.

8. Whether the developing solution be compounded with a small percentage of sulphite or a large one—5 or 10 for 1 of diamidophenol hydrochlorate—the character of the picture is very nearly the same. In the latter case the density of the negatives increases more rapidly; in the former we think they are somewhat clearer and the details of the image better defined.

9. The action of the developer is modified by dilution. If it is weak its energy as a developer is not altered to a very great extent; the whole image generally comes out pretty well, but the reductive or intensifying action is much impaired, and, in consequence, the density of the reduction remains stationary, or slowly increases in opacity.

Here is the formula of the two developing compounds by which we obtained the most characteristic results:

1.

Diamidophenol hydrochlorate (amidol), . . .	8 grains.
Neutral sodium sulphite, crystallized, . . .	90 grains.
Potassium bromide, ...	1 grain.
Water, boiled and filtered, ...	3 ounces.

2.

Diamidophenol hydrochlorate (amidol), . . .	6 grains.
Neutral sodium sulphite, crystallized, . . .	35 grains.
Potassium bromide, ...	½ grain.
Water, boiled and filtered, ...	4 ounces.

None of these solutions kept well, but they remained colorless during the development and for several hours afterward.

No. 1 intensified more rapidly; both acted with the same energy. We did not find it necessary to dilute No. 1 in the case of correct exposure time.

One will observe that the results I obtained are not similar to those observed by other experimenters, especially in regard to the intensifying action, which has been said to proceed with great rapidity, and also in regard to the adaptability to different time exposures. Probably I was not working in the same favorable conditions.

Whatever it may be, diamidophenol is a good addition to our series of developing agents. All possess certain special properties of their own, which make them valuable, and when those of the new developer now in question become better understood it may render excellent service. Its chief and unmistakable quality is the rapidity with which it develops the details, or half-tints, of the picture; but it does not permit one to shorten the time of exposure more than is allowable with other developers. Will it supersede old pyro? We think it will not. It does not admit of controlling so well the development of the image and its intensity. In fact, none of the developers now at our disposal equal pyrogallol in this respect.

Editorial Comment.

Our Illustration.—We present a picture of a "Japanese Girl" (being one of the many taken in Japan by Mr. William B. Post) as a striking example of artistic work which is so characteristic of all that Mr. Post does. He was lately awarded a gold and a silver medal in English competitions of lantern-slides in recognition of the high standard he acquired.

Close of the Fourth Volume.—The year 1892 shows that our subscribers have received a larger amount of reading matter than in any previous volume, which no doubt is a satisfactory return for the money invested. While we have not approached our ideal, we believe, improvement has been made, and it is probable a further enlargement will occur before the close of the next volume. We extend our thanks to our many subscribers and contributors for the hearty support we have had, and the assurance of the future success of our enterprise. We have demonstrated that amateur photography has come to stay, and with it we mean the MAGAZINE shall remain one of its foremost exponents. Those wishing to have their volumes bound can do so at small expense by communicating with the publishers.

Road Photographs.—In previous numbers of the magazine we have alluded to the excellent work that Mr. I. B. Potter, connected with the National Road League, is doing toward the education of good roads. Mr. Potter has since started a monthly journal, entitled *Good Roads,* in which appear reproductions of photographs of good and poor roads. They form a very interesting method of education. There is no doubt that good roads are also of advantage to amateur photographers, since many carry their small cameras with them on their bicycle outings, and, of course, are aided by having good roads to travel on. Mr. Potter, whose address is in the Potter Building, New York, offers prizes for the best photographs of roads which are so poor that wagons or vehicles of any sort become stuck in trying to travel along them.

Probably the prime mover in this movement is Col. Albert Pope, of Boston, Mass., who is actively engaged in trying to shape a National Road Department in Washington, and having there also a permanent road exhibit, showing comprehensively road construction and all the practical results that would arise from good roads. He is desirous of having a special road exhibit made at the World's Columbian Exposition, and is in hopes that Congress will have such an exhibit at Chicago for the general education of the public. He has sent us several petitions, to be presented to Congress before January 1, 1893. Any of our readers desiring to sign this petition will please forward their names to us; we will see that they are sent to Colonel Pope. Good roads are as much an essential to the convenience of photographers as they are to other people, and we heartily indorse the movement so vigorously pushed by Colonel Pope. That it is becoming a national one there is no doubt, since we see in the daily papers continual agitation of the subject and reports of the establishment of special laws for the betterment of roads in different States.

Later Experiments with Amidol.—On another page we give a detailed account of experiments with amidol by Mr. Duchochois, who has examined into its chemical qualities, and has, in a measure, confirmed our own experiments, as outlined in the November number of the magazine. He observes that a smaller amount of sulphite added to the amidol solution appears to work better than the excess which is advised in the formula, and notes that in the beginning, without the addition of sulphite, the amidol shows an excessively acid reaction, and that it is necessary to add a certain proportion of neutral sulphite to reduce this acidity before the developing action occurs. Upon the plate which he used it appears that he failed to obtain the amount of density that one would get when using pyro. It is also noticeable that he advises the addition of a fractional amount of bromide of potassium, which, in view of the great reducing power of amidol, is perhaps essential; although we have found for instantaneous exposures that such an addition was not necessary. Since our former trials we have experimented in a limited way with a newer compound of amidol, as made by Dr. Andresen, and found it to be almost colorless in solution, and not to oxidize quite so rapidly as other samples. We tried the experiment of preparing a solution of 7 ounces of water, 1 ounce of sulphurous acid, 1 ounce of sodium sulphite (crystal, C. P.), and 80 grains of amidol, with a view of ascertaining whether this would keep better in solution than with more sulphite. After standing three weeks in a graduate partially covered, the solution changed from being colorless to a dark, ruby red, which still is active in its developing qualities. Taking 1 ounce of this solution and adding 2 ounces of water, we found developing to proceed rapidly—but not as much so as when more sulphite is added—on a shortly exposed plate. We developed several plates in succession and added for each plate one dram of a saturated solution of chemically pure sodium sulphite. The object of this addition was to compensate for the bromide which is evolved from the surface of the plate in the solution during development. For well-timed plates no such addition would be necessary until two or three plates had been developed. By the time we had finished developing six plates there had been added possibly three-quarters of an ounce of the sodium sulphite solution. This was not thrown away, but was preserved in a graduate and has stood for three weeks. The noticeable difference in the color of this solution is that it is much lighter than the stock solution which was first prepared, which would indicate that a solution made of 3 ounces of sodium sulphite, 80 grains of amidol, 1 ounce of sulphurous acid and 7 ounces of distilled or rain water, will retain its keeping qualities in an excellent manner. Our advice would be the preparation of an amidol and sulphite solution, with as little sulphite as possible to preserve it from oxidizing, and then the addition of a sulphite accelerator, the same as alkalies are added to the pyro development. We have not tried it sufficiently on a variety of plates to note the different reactions.

World's Fair Photographic Privilege.—The peculiar decision of the official photographer at the World's Fair, in debarring stereoscopic cameras of whatever size from admittance to the grounds, has excited the attention of some of our English contemporaries, notably the *British Journal of Photography,* which gives an interesting account of how it will be possible to secure stereoscopic photographs by the ordinary hand-camera (which is admitted up to the size of a 4 x 5 plate), and ridicules the idea of ruling out this class of pictures. We publish on another page an extract from this article, as well as one from another English journal, which deserves the attention of all interested in the subject. There is no reason why amateur photographers who do not wish to sell their work, but who simply wish to take the pictures for their own pleasure, amusement and education, and for the benefit of their friends, should be charged a fee for photographing in the World's Fair grounds, and we anticipate that either before or after the fair opens, such a pressure will be brought upon the authorities that some arrangement of this kind will have to be made, and that a discrimination in favor of the amateur who can show good credentials will occur. The comments of our foreign contemporaries will be read with interest.

The Columbian Visitors' Association.—On another page we refer to a letter from the secretary of the Chicago Camera Club, in reference to the establishment of a hotel, under the auspices of this association, in which is to be provided nine or tenfirst-class dark-rooms for the accommodation of photographers visiting the World's Fair. The project is a most admirable one, and we think will receive the support of all the clubs and amateurs in the country. The hotel is to be located on the lake front, about ten minutes' walk from the World's Fair grounds, and every convenience that the amateur could wish for is to be provided. We understand that arrangements can be made in advance for accommodations at quite reasonable rates; and connected with the hotel is to be an auditorium or hall, where meetings and lantern exhibitions can be held without any extra charge. We are informed that already ten thousand applications for accommodations have been received. We should think that it would be a very good place for our English brethren to locate when they make their trip to this country next summer.

Correspondence.

VISITORS' ACCOMMODATIONS AT THE WORLD'S FAIR.

To the Editors of THE AMERICAN AMATEUR PHOTOGRAPHER :

The use of the Chicago Camera Club rooms is most cordially extended to all members of other camera clubs visiting Chicago during the World's Fair; but you have, perhaps, raised the question whether we would have room enough to accommodate, with convenience, all visiting friends. Our club is situated, as you may know, at 184 Wabash avenue, some six miles from the exposition grounds. It is within easy reach of some of the larger hotels in the business district of the city, but to many the use of the club-rooms would be somewhat inconvenient.

Realizing that many would prefer other accommodations, and also that our accommodations may prove inadequate, the camera club has secured a proposition from the Columbian Visitors' Association, the substance of which is herein stated, which we think will afford satisfactory accommodations to many. The Columbian Visitors' Association is now erecting a European hotel, known as Hotel South Shore, at Seventy-second street and Bond avenue, which is within five minutes' walk of the exposition grounds, and in a very delightful portion of the city. This association is now constructing in this hotel nine or ten dark-rooms upon plans approved by the Chicago Camera Club. Electric lights and running water will be furnished in each dark-room. A commodious and well-equipped printing-room will also be furnished. Chemicals in convenient form and printing paper will be furnished at cost, for use in the hotel. Free use of a large auditorium connected with the hotel is offered for photographic meetings or conventions. A custodian will be in charge of the rooms, and will develop and print at a reasonable price for any so desiring. Probably a fee of one dollar will be charged to cover the expenses of custodian and some current expenses in caring for the rooms. This offer has been investigated by the officers of the Chicago Camera Club, and I have been authorized to recommend the acceptance of the offer to all camera club members who may not have other satisfactory arrangements for their stay in Chicago during the exposition. I am personally acquainted with the management of the Columbian Visitors' Association, and know them to be reputable and responsible business men. The secretary of the club will cheerfully answer all inquiries, but the officers of the club have thought it best to have all correspondence addressed to the Columbian Visitors' Association, Camera Department, No. 810 Bort Building, Chicago, Ill.

The foregoing is substantially what we would recommend. We believe that it will be valuable to all persons not acquainted with the city of Chicago and not having any particular place to board while here. We have not appreciated the necessity of providing ampler accommodations for visiting photographers until lately, or until we had a large number of inquiries in the matter. I should be pleased to receive any suggestions from you in regard to the matter, and would modify the plans and arrangements to best serve fellow-members of camera clubs. Yours truly,

CHARLES LOUGHRIDGE,
CHICAGO, Nov. 12, 1892. Secretary *pro tem.* Chicago Camera Club.

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MONOGEN.

There are so many new developers on the market now that one can hardly pick up any photographic reading matter without seeing some account of them, and they are all good if used properly, but if we do not understand them we are apt to spoil our plates from the developer being too strong and acting so quick that before we know it the plate is black, and on fixing we find a negative with plenty of detail, but no contrast.

Those who have used monogen may have had this trouble, where if they had mixed it as follows the plate would have been saved.

Water, - - - - - - - - - - - -	6 ounces.
Monogen, - - - - - - - - - - -	3 drams.

It will take a minute or so before any change will take place; but once the high-lights are seen, it will continue to develop with fair rapidity and plenty of density, without the use of fresh developer. When through pour it back into a bottle, no matter how many plates you have developed, as this old solution is just the thing for fully timed plates. It will, after use, become dark, but the developing power is there and you need have no fear of stain even in its dark state. I am using this old solution, mixed up in July, and find it works very satisfactorily. If you have an instantaneous exposure to develop, use fresh solution (same strength as above), and if you find more contrast is necessary add a few drops of a ten to one bromide solution. Monogen comes in a powder form and packed in small round boxes; they are sold in two sizes, ten and fifteen cents each I have used many of the new developers and would discard same for the old stand-by pyro, but I must say since using monogen I prefer it to any other developer I have ever used, and since first working same, my pyro lays on the shelf unused. A few weeks ago I was informed they had made a little change in monogen, and had a sample sent me to try, which I found an improvement over the old. Before closing I will say to those who care to try this developer and desire any information about same, I would be pleased to give it. Yours very truly,

HENRY D. COCHRANE,

NEW YORK, November 20th, 1892. 47 West Fourteenth street, City.

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NOTES FROM MEXICO.

THE SLOW ADVANCE OF IMPROVEMENTS.

Amateur photography in Mexico is still in its infancy, but all innovations are accepted in the same slow, deliberate manner, if accepted at all. Booms are unknown to this apathetic race, so anything like a hobby sweeping across this country to live perhaps an ephemeral life, as one continually witnesses in the United States, would be an impossibility.

European influences are more felt here than American, in photography as in almost every industry; hence we find the professional photographer throughout the Republic developing with iron. All other developers are as yet in their experimental stage to him. Perhaps he is right, for he surely holds the reins with what he handles. However, the slow progress photography has made in Mexico is due, I consider, to the absence of literature on the subject. No circulating mediums in the Spanish language bring weekly or monthly advices of the progress in the art, as to the more fortunate English, German or French reader, and possibly this may account for the hospitality shown visiting amateurs. Throughout Mexico, with the exception perhaps of the capital, the professional is glad to open his dark-room to those interested in the art He may not wax warm over a hand-camera, but still he shows his good will; and when one grows eloquent over what a world of picturesqueness for the camerist the whole of the Republic presents, his time even is yours, and he will try to convince you of the merits of iron as a developer. All argument he meets with "hypo" or "bromide"

As a result of this hospitality it is highly probable that some impatient customer inquiring for her photos promised that day, will meet with the response I was once the cause of:

"Dispenseme, senora, pero hasta mañana" (Excuse me, madame, but not till to-morrow).

The amateur making a trip through Mexico would do well to bear in mind on exposing that altitude has considerable influence on the actinic force of the light, and when traveling over Mexico's high table-land this should enter into calculations. To the hand-camerist this is, of course, superfluous, as he generally errs on the other side.

A short time since I read of a method adopted by some one who had just visited Mexico to secure his views of plazas, street scenes, etc. The writer advised placing the camera in position and waiting till the curiosity of the bystanders had been worn out. This might prove effective in some places, but generally speaking I think it would be after many months of waiting. A *tlaco* or *quartillo* (one and a half and three cents) in the hands of a policeman is more effective than would be the weary months of waiting.

Tipping is a Mexican as well as European custom, but (this point is brought to mind by seeing it so frequently abused) it should be guided by a knowledge of how the custom is used. To the tourist who may make the trip through Mexico during the coming winter months, and who may often need the services of a *cargador*, I would say that a *tlaco* or *quartillo* will generally requite as satisfactorily as a silver piece, and will furthermore give you an air of familiarity with the custom.

Outside of the capital it is almost an impossibility to obtain the chemicals used in photography. C.P. Pyro may be found in many cities, but always considerably oxidized. The commercial sulphite of soda is all that can generally be obtained, and this always carrying free carbonate as well as the inactive sulphate.

VERDE.

ENGLISH PRESS COMMENTS ON WORLD'S FAIR PHOTOGRAPHIC PRIVILEGES.

CAMERAS AT THE WORLD'S FAIR.—Amongst the rules drawn up for the regulation of the gigantic exhibition which opens next year at Chicago there was till recently a salutary prohibition of hand-cameras. Every second person is a photographer nowadays, and the outcry at the rule has resulted in its relaxation. The management has decided that cameras shall be admitted—but only on payment of two dollars a day. This is plainly a virtual concession only, for the most enthusiastic devotee of the camera will hardly relish the fee for the admission of the instrument. The new rule is of the family of decrees by which "children in arms" are admitted to theatres—on payment of one guinea—to vie with the artistes in attracting attention, and by which dogs are established day visitors to clubs and bowling greens at the trifling charge of half a sovereign. The management of the Chicago Exhibition will find some difficulty in preventing the smuggling of cameras within the walls. Past are the days when a detective camera proclaimed its identity to the casual observer. The strapful of books is sometimes its outward form, while the brief bag is another favorite guise. The newest shape the detective camera has taken to itself is the hat of the "chimney-pot" persuasion. The gentleman who takes off his hat and with an adaptation of foreign manners presses it to his breast as he bows is a person to be shunned, for in a base imitation of a ventilating hole on the top there may snugly repose the lens. Stirred by the Chicago regulation, the makers of the detective cameras may be relied on to put new disguises on the market; and it will be surprising if the fees obtained for the admission of cameras constitute an appreciable asset in the exhibition finances.—*Telegraph, Sheffield, England.*

THE PHOTOGRAPHIC BLUNDER AT THE WORLD'S FAIR.—Probably those who framed the regulation regarding the admission of cameras to the Chicago Exhibition and the exclusion of stereoscopic cameras had some good reason for the latter element in the decision, but they could have scarcely realized that the obtaining of pictures of the excluded class is not by any means confined to operating with a properly constituted stereoscopic or binocular camera.

When it is considered that a photograph of this kind is nothing else than a duplication of any subject, each taken from a point of view a few inches to the side of the other, it will be apparent with what facility this may be done with a single camera, by taking first one view and then another, previously shifting the camera a little to one side before exposing for the second picture. This, we may observe, was the method adopted for obtaining many of the early stereoscopic scenes of still life. Nay, as we have many times proved, the same end may be secured by the mere rotation of the camera on the stand between the exposures, the only condition for obtaining the necessary dissimilarity being to have the nut in which the screw of the camera-stand engages as near as possible to the rear of the camera. A very slight degree of rotation suffices to displace the position of the lens when this system is adopted. True, the amount of the subject on the plate will differ, owing to the central object in one being a little to one side in the other, but this is made right in the trimming of the prints.

Although moving figures or active life cannot be taken by any of the methods just described, yet can this be obtained by two persons having hand-cameras and acting in concert. The conditions for taking instantaneous stereoscopic pictures are by no means difficult of attainment. First of all, their cameras must be similar as regards focus of lens, aperture in stop, and rapidity of shutter. They must stand very closely together, side by side. If one possesses the ability to hold his camera under his left arm, while the other holds *his* under his right, an approximation of the instruments will be secured sufficient to give excellent stereoscopic relief in a binocular picture composed of the two photographs thus obtained. A precaution must be taken to avoid having any figures or objects too close to the cameras in this case, else may the relief be exaggerated. It is also necessary that some definite object be fixed upon to be in the center of the finder and that both exposures be made simultaneously. For this latter purpose the old-fashioned "once—twice—thrice" will suffice.

We are quite unware of the reason by which the directors of the World's Fair have been actuated in making what seems to us at present an unwise inhibition of the practice of photography in a direction altogether contrary to the spirit of the age. But, seeing they have done so, and that the restraint is, as we understand it, confined to *stereoscopic* camera, while single or monocular cameras do not fall under the ban, we cannot perceive that violence is done to any principle of ethics by those artists who, while adhering literally and strictly to the conditions of entry imposed upon photographers and pay the sum *per diem* which they are charged, may prefer to use their instruments as they choose, or in some such way as we have here indicated.

Had it been hand-cameras that were debarred admission, one might, in view of the displeasing, if not aggressive and offensive, uses to which they are frequently put, readily be inclined to acquiesce, nay, give cordial assent to the interdiction ; but upon what principle binocular cameras have been singled out for exclusion we quite fail to understand.—*Br. Journal of Photography.*

Society News.

ALBANY CAMERA CLUB.—At the regular meeting on Friday evening, November 4th, Mr. W. W. Byington, the president, gave an extended account of his trip to Ireland this last Summer, which contains a number of facts of interest to photographers. From a report in the Albany *Argus* we make several extracts. The subject of the lecture was

"A CAMERA IN IRELAND."

"I landed at Queenstown on the morning of the 5th of June, and in the early gray of the dawn had my first view of Ireland, and those who have seen the magnificent harbor of Cork will agree with me that no more pleasing sight could greet one in landing on a foreign shore. The city of Queenstown, with its ivy-covered terraces and its cathedral standing boldly above the general view, its almost numberless vessels of all kinds, furnished a view that made one feel that there was something beyond worth seeing and visiting.

"I had provided myself with an outfit for photographic work, consisting of an 8 x 10 camera, with a Bausch & Lomb lens and shutter, and a Dallemeyer wide-angle lens, with a Kronich shutter. I had also a Scoville detective, with a euryscope lens, 4 x 5, and another detective, 4 x 5, fitted with the Morrison wide-angle lens. I took two cases or sixty dozen Cramer 'C' plates, 4 x 5, and one case or twelve dozen Cramer 'B, 8 x 10. These plates, with those already in my plate-holders, made over nine hundred. I had no difficulty in carrying them, and at once made arrangements in Cork to have them forwarded to me as I wanted them from time to time, the carrying being done by mail. I may say here that during my entire trip I did not break or have broken to the extent of a half-dozen plates.

"*A Day at Blarney.*—The day after my arrival I was accompanied to Blarney Castle by two members of the Munster Camera Club, Mr. W. R. Atkins and Mr. John Foley, using my 8 x 10 camera. There was good material for exposures here, not only of the castle itself, but of the groves surrounding it. My attention was at once called to the painstaking work of these gentlemen, and I was not very long in slowing down The day following I went thirty miles to the east, to the old and historical village of Youghal, on the coast. This was the home of Sir Walter Raleigh, and I made exposures of the old cottage, which was his home, and of the grounds where the potato was first planted in Ireland, and where tobacco was first smoked. This quaint old village furnished other good material for the camera in old St. Mary's Church and in the numerous historical ruins. Returning to Cork, I at once set out on my trip around Ireland, going to the north and stopping first at Limerick, on the River Shannon. There was much of interest there. It is a city of 40,000 inhabitants. The old portion of the city, the cathedral, the treaty stone, the old forts and the River Shannon all furnished food for the camera. Going again to the north, I spent a profitable day at Adare, the country seat of Lord Dunraven. Having passes, I was able to make numerous exposures of the manor house and the grounds, of the old abbey and of various scenes on the River Maigh, which winds beautifully through the grounds.

"Near by is the village, and here I obtained some good views, as I did also at St. Patrick's Well. Further to the north, and on the main line to Dublin, the journey was broken at Goold's Cross for a trip to the rock of Cashel, in County Tipperary, and a little further north for the old cathedral and ruins at the village of Thurles. Another short stop at the village of Kildare for a round tower, and I reached Dublin. Here I stopped at first but two days, as I had friends with me who wished to hurry through

Ireland, and I knew I could complete my work there later. Going again to the north and along the eastern coast, a stop was made at Drogheda, in County Louth, and another at Dundalk, a watering-place, and then Belfast was reached, where I spent but one day.

"To the north of Belfast a stop was made at Antrim for Lough Neagh, the largest lake in the British islands; at Ballymena for a county fair; at Coleraine, because of its importance as one of the flourishing villages in northern Ireland, and then at Portrush, in the extreme north of Ireland. This is a celebrated watering-place. To the east, twelve miles, is the Giant's Causeway, connected by a very singularly constructed electric railway. Going to the east from Portrush, five miles, are the ruins of one of the oldest castles in Ireland—Dunluce Castle. Differing from nearly all of the other ruins, it has no ivy, but stands barren and fallen on the shores of the ocean, with nothing but the outlines of the walls to mark its ancient glory. Four miles further to the east is the village of Bush Mills, known all over the world for its whiskey distilleries, and three miles further is

"*The Giant's Causeway.*—The shore from Portrush to the Causeway, and for some miles still further to the east and south, is high and precipitous, the Causeway being situated at the foot of almost perpendicular hills, in a little bay formed by the ocean, the ground surrounding the Causeway being almost on a level with the ocean. I must own to being very greatly disappointed in the Causeway. It is not nearly so large or extensive as that expected. The formation itself is small and covers but a very small space. It is interesting, of course, geologically, but the interest of the tourist, it seems to me, must be satisfied by a very short visit. But I shall not attempt any minute descriptions, here or elsewhere, for time will not permit. I made a large number of exposures at the Causeway and at Dunluce Castle, and of the famous Pleaskin Hill, and of other scenery in the neighborhood. My visit in the north of Ireland was at a time past the middle of June, but the cold winds came down from the north and made the weather almost unendurable. The heaviest winter wraps and coats, which I did not have, would have been no more than sufficient. At the hotels, fires in rooms were necessary, and in making exposures my hands would be too cold and numb for pleasant and easy work. From Portrush I went to the west along the shores of Lough Foyle, and stopped at Londonderry, at the head of it. This is one of the flourishing cities of the island. It has some thirty thousand inhabitants, and presents to the visitor all the life of an American city. My exposures there were of the old wall, of the Gen. Walker, of siege notoriety, tower of the cathedral and several of the busy streets from the wall where it crossed them. The principal streets of Derry are Ferry-Quay and Ship-Quay streets, pronounced 'Ferrika' and 'Shipky,' and I will defy any one to find them from the pronunciation. From Derry the watering-place of Moville can be seen at the north, on the western shore of the lake. Going to the west by rail twelve miles is found the village of Letterkenny. From here by car over the Donegal Mountains to Gwedora, the scene of Mrs. Craik's book of the unknown country, and back to Donegal again occupied two days. The scenery of the Donegal Mountains is wild, intensely interesting, and well worth seeing. But for photographic purposes it is not so good, because of the lack of trees and foliage. Going south from Londonderry, or Derry, as it is almost universally called, my trip was

"*Up the Valley of the Foyle River*, as beautiful a country as I ever saw. It passes, through County Tyrone, celebrated for its beautiful women. I stopped first at Enniskillen, on Lough Erne, in County Fermanagh. Lough Erne is a body of water extending back from the ocean, or, rather, from Donegal Bay, about sixty miles away, going to very nearly the exact centre of Ireland. Enniskillen is very near the centre of the lake. It is a long, winding body of water—more river than lake. It finally reaches the ocean by a falls extending for some eight miles, ending in an abrupt fall, which forms one of the celebrated salmon-leaps of Ireland. The trip down the lake was by steamer, twenty-four miles to Belleek. No scenery could be more beautiful. The shores were edged by high hills, varied with vast expanses of verdure, such as can only be produced in the Emerald Isle. The village of Belleek is celebrated for its pottery—alas! now gradually coming to naught—and for a salmon-leap, which is visited by anglers from all over the world. Eight miles below is the village of Ballyshannon, old, odd, tumble-down ruins of buildings and castles in plenty, and withal a salmon-leap, and three miles beyond a watering-place of some celebrity, at the village of Bundoren. The ride from here to the south is by mail-car fourteen miles, along the coast to Sligo.

"The Benbulben Mountains are in full view to the south and west, and the Glencare range to the east, while the shore is almost constantly in sight. At Drumcliffe, five miles to the north of Sligo, there are the remains of a round tower and of a Celtic cross. Sligo is a beautiful city of some twelve thousand inhabitants. I do not know that I was ever more happily disappointed in a place. Its places of business are tidy and thrifty-looking, its churches are ancient and interesting, and its residences attractive. The Sligo River winds about the city, forming almost a square in its centre. Going up the river a distance of three miles is Lough Gill, a lake some seven miles long by three wide, but surrounded by high hills and filled with islands, which make it a rival for Killarney, and by many it is thought to be equal in its scenery to the Killarney Lakes. There was much of value for the amateur photographer at Sligo and in its vicinity.

"*At an Irish Fair.*—From Sligo my trip was to the southeast, to a village in County Mayo, Ballaghadareen, the home of John Dillon. I visited it for the purpose of making exposures at a county fair. Perhaps it will be interesting to recount more minutely one day's work. By six o'clock in the morning I was up and on the fair grounds with my hand-camera. Ballaghadareen is in the very centre of original Irish Ireland. The countrymen came down from the hills and from the surrounding country in the ancient Irish costumes of cutaway coats and knee-breeches, with high hat. The suits themselves are handed down from previous ages, and show it. It is doubtful if any new ones are now being made. By noon I had exposed two dozen plates and refilled twelve plate-holders. With a light lunch I was away and across country through County Mayo, to Hallayhaunis, a railway station. Twelve miles to the west I stopped at Claremorris, and then drove fourteen miles to the south, to Ballinrobe, passing through the vast demesnes of Mr. Fitzpatrick on the way, and driving for miles in the midst of the grandest trees and foliage. Eating my lunch at the hotel, I had for a companion Mr. Valkenburgh, who was the only man in that region who stood by Captain Boycott in his troubles, and the table and that corner where he sat were pointed out. I received a minute account of the original troubles which gave the English language a new word. I then drove five miles to the house in which Captain Boycott lived, and made exposures of the house, and of the Oiugh Mask Castle near by, and also of several points on the lake. I then drove five miles, passing Lough Mask Village, and arrived in Cong in the early evening. This village is at the northern end of Lough Corrib, Galway, being thirty miles to the south at the other end. I exposed three dozen plates that day, the largest number in any day. The trip was from Cong by steamer to Galway—thirty miles. At a little village called Gilbeg a number of Irish market-women got on with their baskets for the Galway market. It was raining, and they would have to walk home ten Irish miles, but they were happy and full of mirth. One woman wanted to sell me a drink of potheen, but I did not think she had a license to sell it, and knew I had not one to drink it, and so we did not trade. At Galway, a large and interesting town, I found the celebrated Claddagh tribe, a race of fishermen, who have until quite recently governed themselves, although forming a part of the city. I made many exposures in Galway and vicinity.

"I spent a week at beautiful Killarney—I wish it might have been a year. There was never a better place to rest, to look upon the grandest of grand scenery, to be with the pleasantest people, to be waited upon by the kindest of servants, or to make exposures for photographs. Having traveled nearly around the island, and having been in all kinds of hotels, and having had experiences of the most varied and not always entertaining nature, it was indeed a rest and pleasure to land in beautiful Killarney and to be able to while away the hours at the Muckross Hotel, using my camera only as I felt like it.

"From Killarney I went south to Glengariff, to Bantry, and thence to Cork, having completed my circuit of the island. After a rest of a few days I went to Dublin, where I stayed for nearly two weeks. Then I visited several places in England, spent three weeks in London, two days in Liverpool, and came back to Ireland again, stopping for a time in Dublin, and again to Cork, where I made numerous trips to country towns, and thus you have the itinerary of my trip while I was carrying out my original programme of making photographs in Ireland.

"*The Country and the People.*—Ireland is known and is celebrated for its rains. It is called the leaky country. I had provided myself with mackintosh, with rubber wraps for myself and for my cameras, with stout umbrellas, and I expected to waste half of my time waiting for it to stop raining. But never a bit of rain came to annoy me, and there was not a day that I could not work. I am told that this was very remarkable, but it is nevertheless true.

"I found the railway travel always comfortable, and while Irish trains are usually behind time, they will always get there, and they will treat you well while they are doing it.

"I cannot say too much in praise of the Irish people. They are cordial and kind in the extreme, and this extends to all classes. There is nothing they will not do for one, and no one can remain in the presence of the Irish people of any class or station without seeing the bright side of life. My personal observation and belief is that they would be the happiest people in the world to-day if politicians and Irish agitators would let them alone. They do not pay their rents, not because they cannot, but because they are told not to. In every place which I visited I hunted out the habitats of the poor, and found poor people, but none more so than I can find here in Albany. I presume it is true that they are contented to live on less, but they do not show or parade being any poorer than people do here in Albany. From the poorest classes to the gentry and the lords there is universal cordiality, always a welcome, and always a helping hand. This is true of country, of village and of city.

"I have read many accounts of Irish beggars and of Irish cheating of tourists. Ireland has beggars, and so have we. In Ireland it is the tourist's fault. It is only where tourists go that beggars can be found. Away in the back country there are none. It is only at Killarney and Glengariff, in Cork and Queenstown where they are found. In Dublin they are prevented by law. In numbers of small villages in the west of Ireland I was not once solicited for alms.

"Ireland lacks manufactures in every part of it, except in Belfast and some of its surrounding places. But it is an island full of fertility, and well capable of supporting the large population which it does support.

"*Irish Amateur Photographers.*—Having made my exposures throughout Ireland,

and consequently accomplished that which I went for as fully and completely as I could, I devoted a good deal of time to the methods of photographing among the most noted Irish amateurs. It struck me at once upon my arrival as being very peculiar that all of their very best amateurs were using pyro and ammonia as their one sole developer, and this I found to be true throughout all Ireland, not only by amateurs, but by owners of photographic galleries. I was greatly benefited by an introduction from our friend Mr. F. C. Beach to Mr. Louis Meldon, of Dublin. Mr. Meldon has won a reputation as an amateur photographer which is scarcely excelled by any one in the world for practical work. He has won prizes and medals without number, and all, I believe, as the result of untiring industry and painstaking work. During all of his photographic experience Mr. Meldon has been actively engaged in his business as a solicitor, and he is one of the leading solicitors of Dublin. He has invented a shutter which will make exposures in 700th to 1000th of a second, and a machine to measure the time of the exposure, a partial duplicate of which I showed you here a few nights ago. He has also invented a box for making lantern-slides and transparencies by gaslight. I was in the field with him on several different occasions and could not help being forcibly struck with his painstaking work. Once his picture is selected, his camera erected, he studies it from every surrounding point, and when he has finally found the location which he desires and has his camera ready for work, then each and every time he studies carefully the kind of light, the time of year, figuring closely and carefully, and makes up his mind what time should be given the exposure, and then makes it. I think I saw him study two hours on one exposure before he had everything to suit him, and it is in this way that Mr. Meldon has won prizes and medals.

"*Two Noted Amateurs.*—Dublin has two other celebrated amateur photographers, Mr. McCabe and John White, each of whom has won prizes and medals for hand-work. In Cork I spent some time with Major Lysaght, president of the camera club. Mr. Lysaght is an expert worker with the hand-camera, which he has practiced until he can hold it as still as a marksman can a rifle, and he seldom fails in making good results; although I may say here that they are quite satisfied if half the results are good ones—at least this is my experience. While visiting London I had heard frequently of Mr. Paul Lange, of Liverpool, who is president of the Liverpool Camera Club. He is considered one of the best English experts in hand-camera work, and on visiting him he readily gave up two days to me in order to show me his methods of working.

"Mr. Lange has traveled pretty much all over Europe, making exposures, and has made a specialty of work in Norway. He is expert with the hand-camera, and I think that Mr. Lange and Major Lysaght can be considered as two of the best experts in that kind of work. Mr. Lange develops solely with a developer composed of a solution of washing soda, to which he adds a little bromide of ammonia, and then uses it with dry pyro. Mr. Meldon uses dry pyro with ammonia. Neither of these gentlemen use any sulphite of soda, and each claims that they gain at least one-third in time by not using sulphite. I am well aware that we have in our own club painstaking workers, and we have experts who secure good results, but I must still say that in working with amateurs abroad my first and greatest observation was in the great care taken in making exposures and large amount of time expended in so doing. I was making some exposures of the Shakespeare cottage at Stratford. When I arrived there were two Englishmen at work and their cameras were erected. I made six exposures, using all the time I could, and taking every possible precaution, and when I folded my materials and went away neither of them had done anything more than move about an ordinary street and take another look under the focusing cloth. I suppose that along towards night they arrived at an exposure, and will warrant it was a good one when they got it.

"I do not claim to have made more than a start in making photographs in Ireland, but having started, I shall quite surely make another trip, taking up places which I did not visit this time. It has proved to be a very interesting study, and it gave me a very pleasant vacation, and, more than all, it gave me a knowledge of Ireland and of the Irish people at home, which no one, as I believe, can ever get until he goes to Ireland and sees for himself."

SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK, *Tuesday Evening, November 15th.*—The regular meeting, postponed on account of the election November 8th, was held on the date above mentioned, the attendance being very slim, the president, R. A. B. Dayton, in the chair. No programme was announced on the card, but the president stated that through some misunderstanding no scientific business had been provided by the committee in charge. He introduced Mr. Bunker, who exhibited one of Ross' latest 6½ x 8½ mahogany view cameras. It was very light and strong and exceedingly compact, and resembles in idea the well-known Rochester Universal folding camera. In the base of the camera a circular aperture five or six inches in diameter is cut, which holds a brass tripod ring. The tripod legs fit into this. It dispenses with the use of the regular tripod head and screw. The friction of the ring against the bearing is sufficient to prevent the camera from turning when the plate-holder is inserted. The plate-holder has short legs on its upper and lower edges, about two inches long, which engage in corresponding grooves in the camera back, so that in inserting it a movement sidewise of two inches is required, instead of the whole length of the holder, as is usual. A stop is provided for locking the holder when in position, to prevent it from sliding out when the slide is withdrawn. The latter is of the usual clumsy wood folding kind. The interior of the holder is similar to the Anthony central septum holder. The plate is inserted, however, in grooves transversely to the length, instead of longitudinal grooves.

The front of the conical bellows is attached to and detached from the lens front when the camera is set up or packed, which prevents the front from coming any nearer to the back than the length of the base-board, and precludes the possibility of using a wide-angle lens of short focus.

In this respect the Rochester Universal camera, though somewhat heavier, is superior. The back of the camera is reversible, like the Blair, so that a picture may be taken upright or lengthwise. The ground-glass is hinged and is set in a very light frame. The rising front-lens board is held in any vertical position by the friction in contact with the main front. The back is adjustable for an out or in swing back. Mr. Bunker stated that a Ross rapid symmetrical lens fitted with an iris diaphragm was used with the camera, the whole, including the tripod, being packed in a neat and compact-leather case, holding, besides, three double plate-holders.

Mr. W. F. Hapgood exhibited a Thornton-Picard focal plane shutter for a 3¼ x 4¼ camera, which had a horizontal slit about ⅜ of an inch wide and means for increasing and decreasing the speed.

It was neatly made and appeared to be quite effective. He was of the opinion that the faster the speed is made the smaller the size of the slit should be, to avoid distortion.

In behalf of the Lantern-Slide Committee Mr. Murray spoke of the difficulty the committee had had in securing slides for the Interchange from a large number of members. Two years ago nearly twenty contributed, last year fifteen or sixteen, and this year there will be but eleven. He thought with such a large membership as the society had there should be more interest shown.

Mr. Beach suggested that it had been the practice formerly to make a memorandum on test nights of the best slides brought in for examination; then, when the season came around for the society to arrange its Interchange set, a special call was made on the members for these slides.

While a general invitation was most desirable, as had been made this year by the committee, he had found in many cases the most interesting slides had only been obtained by special and urgent solicitation. The meeting then adjourned.

Exhibition of Members' Slides.—Friday, November 25th.—The most noteworthy exhibits were the cloud and marine studies by James H. Stebbins, Jr., whose Nassau series was also much admired for its happy illustrations of the street life of that winter resort; hedge-row studies by Dr. E. C. Bolles; views in France, Spain, and Morocco by Richard H. Lawrence; scenes in Washington by C. C. Roumage; views of Niagara Falls by Robert A. B. Dayton, and reminiscences of the Adirondacks by William F. Hapgood. Mr. Hapgood also showed a view of the City Hall, taken on the night of the Columbus celebration (90 minutes exposure on a rapid plate with F. 16), which was a very successful rendering of a remarkable subject. Some figure studies and *tableaux-vivants*, by Daniel K. Young, showed considerable skill in posing as well as technical excellence in rendering delicate effects of drapery. Miss Emily V. Clarkson contributed some very clever figures, but her best picture was a portrait of a dog, "Fauntleroy," which in fact was one of the finest slides shown during the evening. William B. Post's exhibit consisted of landscapes and marines, taken during his extensive traveling tour last year, which proved that he possesses the rare gift of selection and rejection that characterizes the true artist. His slides were also technically perfect, his skies being subdued so as to show their relative value below the high-lights of near objects. William M. Murray's Lake George views and camp scenes were greatly liked. Alfred Stieglitz showed some New York street scenes, taken with a 4 x 5 hand-camera; a few European landscapes, and several charming figure studies. Perhaps his happiest effort was the picture called "Listening to the Crickets" (a little pug-dog attracted by the jumping of the crickets confined in a little bait-pail), which depicted the busy, impudent curiosity so characteristic of that breed of dogs. Some fine landscape work, not mere views, done at Lake George by Mr. Stieglitz, the last a magnificent moonlight effect, ended the exhibition.

The Board of Directors, it is reported, by a close vote have agreed upon the following amendments to the constitution, which is to be submitted to the society at the regular meeting in December and acted upon in January:

> "The annual dues of active members shall be twenty-five dollars, payable in advance, on the first day of April in each year; but active members who shall be elected after the first day of July, the first day of October, and the first day of January shall pay respectively $18.75, $12.50, and $6.25, which shall be in full for dues until the first day of April next following."

The wisdom of thus enormously raising the dues, when a little over a year ago the society voted decidedly against a moderate raise, will doubtless excite the attention of many of the older members who may remember how much more actual benefit they derived from the society when the dues were but five dollars a year, than the higher rates of later years. This is the fifth attempt to raise the dues in a little over eight years, and looks like a plan to change the character of the society from a popular institution for the promotion of photography to one of exclusiveness and mere social pleasure.

Should the change be effected, it will cost $40 for a person to become a member—about eight times the original cost—while the corresponding benefit proposed, if there is any, is no better than heretofore. There will probably be considerable "kicking" when the matter is brought up for final action, and, unless strong reasons are advanced, the board may regret ever having submitted the proposition.

AMERICAN INSTITUTE, PHOTOGRAPHIC SECTION.—A regular meeting of the Photographic Section was held in the lecture-room of the Institute, 115 West Thirty-eighth street, New York City, on Tuesday evening, December 6th, Henry J. Newton, president, in the chair.

Mr. O. G. Mason, secretary, acknowledged photographic publications received, and stated that Miss Catharine Weed Barnes would give the story of her travels during the summer in southern England, with illustrations, at the January meeting of the Section. Miss Barnes made about 1,500 negatives during her trip abroad.

Mr. Harrison exhibited a bromide print, explaining how it was made, and also a neat frame for small pictures.

The vice-president, C. Van Brunt, was called to the chair, and Mr. Newton, before reading his paper on "The Relation of Art to the Lantern-Slide," remarked that he had made his paper very brief; he had intended to tell how he produced the slides, but he found that would take too much time. He then read the paper (see page 539).

Mr. Newton, at the conclusion of his paper, said he had a number of lantern slides to exhibit, that they were mainly made from scenes around his country home at Nyack on the Hudson, and perhaps they would show it was not necessary to go all over creation to find pictures. The thing we needed to learn was to know a picture when we saw it. Many excellent and beautiful pictures were then thrown upon the screen, Mr. Newton describing them in an easy, entertaining manner.

Mr. Van Brunt exhibited a few pictures developed with amidol, illustrating how to produce white and black.

Mr. Newton then invited discussion on his paper.

Mr. J. Wells Champney remarked upon the artistic quality of the pictures shown, and thought Mr. Newton's theories were quite appropriate. He continued: It is not only a question of the gratification we have in looking, but it leads to the optical truth of seeing; that is to say, it represents something that artists have seen and studied for that photographers have not. I thank you for the privilege of expressing my gratification and pleasure on this occasion.

Mr. Newton appreciated Mr. Champney's remarks as they emanated from an artist of ability. It is something, he said, that photography has never been studied for; that is just it. This state of things comes from photography and not from art, as I represented in my paper. I think all artists will agree with my position as being unassailable. I can demonstrate its truth.

Mr. W. E. Partridge made a simile between a certain portion of the Lord's Prayer relating to "Our Daily Bread"—pray teach us to know it when we see it!—and art in photography. That, he remarked, is just what is the matter with amateur photographers, as well as the rest of the world; they don't know their daily bread when they see it; don't always know a good slide when they see it; don't know a good picture when they see it; don't know when they have got into the best position. They need to put up a petition to the artistic prayer answerer to teach them to know their daily bread. I say this in all honesty, that more than the average number of landscapes made by the amateur photographers are superior to the landscapes made by professionals. In going about the country and looking at professional work there is very little of the professional that comes up to what we would consider decent amateur landscape work.

Mr. Becker—I used to be a daguerreotypist. I would say something in favor of the inventor of the lantern-slide. You say the old photographers had no idea what was wanting in producing atmosphere. They tried to obtain it, but the process was too inferior in those days to get what they wanted. Langheim made a picture of Niagara Falls, the first one ever made, that is, to get the water perfectly and the trees on Goat Island. He had some twenty-six or twenty-eight gold medals which he obtained in Europe from noble families there. That shows he had some taste. I consider it due to my old teacher and partner to say something in his favor, because he was the inventor of the slides. It is said that necessity is the mother of invention. So it was with this photographer in the making of lantern-slides. Langheim went from here to Europe and took some of the daguerreotypes along with him. They caused such an effect there that several came from Europe here to learn the art. Mr. Becker did not say how his partner made the first slides, but Mr. Newton remarked, in reply to a question, that they were made by the old French process of Feryea, which was the albumen process, he thought, before the collodion process was introduced. Levy succeeded Feryea. Feryea was the first that made those beautiful positives on glass. He had many of Feryea's slides now in his possession.

Before the meeting adjourned President Newton was heartily applauded, and the unanimous verdict seemed to be that he had struck a blow in the direction of a long-needed reform, and the slides he exhibited fully justified and fortified his position.

NEW YORK CAMERA CLUB.—At the meeting on November 7th Mr. Childs gave an entertaining illustrated lecture on the "Cliff Dwellers."

On Monday, November 21st, Mr. Fred. C. Ives, of Philadelphia, exhibited his perfected heliochromoscope before the club, which excited great interest. It is said to be the first public exhibition of the instrument in New York. Our illustration on another page shows the interior construction.

AMERICAN LEAGUE OF AMATEUR PHOTOGRAPHERS.—The League Lantern Slide Interchange, composed now of nine clubs, is to begin work on December 15th. Mr. Paul L. V. Thiery, of the Newark Camera Club, is the manager.

AMERICAN LANTERN-SLIDE INTERCHANGE.—The executive committee of the Interchange—Messrs. F. C. Beach, of New York, William H. Rau, of Philadelphia, Pa., and Dr. G. Hunter Bartlett, of Buffalo, N. Y.—met on November 29th, 30th and December 1st, at the rooms of the Society of Amateur Photographers of New York, 111–113 West 38th street, and examined and tested very nearly 2,000 lantern-slides sent by twenty clubs in accordance with the regulations of the Interchange. A ten-foot square screen was used, and also the regular lime-light single lantern of the society, fitted with a special Dallmeyer Lantern Lens. The lantern test required about eight hours' time. After the passable slides were sorted out, which averaged about fifty per cent. of those sent, many of the rejected slides were marked by a letter denoting the reason for rejection, and then sent back to their respective clubs. Each club was required to send a set of fifty slides and as many more as was desired. Should there be less than 50 per cent. of passable slides in a lot of fifty, then the club would be debarred from the advantage of membership for one year; but none were thrown out on this account. After the slides are sifted out they are combined in sets of 100 or more, usually containing the work of two or three clubs, and then sent on the circuit, two clubs in each month seeing one set of slides. For the season of 1892–3 there are nine sets of American slides and one set of English slides, arranged as follows: *Portland and New York, Albany and Orange, Philadelphia and Detroit, Newark and Baltimore, Schuylkill and Cincinnati, New Orleans, San Diego and Oakland, St. Louis and Minneapolis, Rockford, Pittsburgh and Chicago, Buffalo and Syracuse*, and the *Lantern Society of London*. The *California Camera Club* was the only club which failed to send a set. As soon as possible after December 1st the typewritten lists were made out and the sets of slides sent on the circuit, the New York slides going to Newark, Orange, and Philadelphia; the Philadelphia and Detroit slides to Pottsville and Pittsburgh, Pa.; the Newark and Baltimore slides to Cincinnati and New Orleans, thence through California to St. Louis; the New Orleans set to St. Louis and Minneapolis; the Rockford, Pittsburgh, and Chicago set to Chicago, Detroit, and Buffalo; the Buffalo and Syracuse set to Syracuse and Albany; the Albany and Orange set to Portland and New York. The English slides will be shown in California during December and then come East. The Philadelphia, Cincinnati, New Orleans, and New York clubs sent the best general average of work. The Newark and Baltimore clubs also averaged well in quality and variety. The newer clubs have much to learn in slide-making, but there is a general improvement shown, particularly in the Western clubs like St. Louis and Chicago, who have competed each year. In the Chicago set are several views of the World's Fair buildings which will be interesting. The Joliet Lantern Club, admitted last year, drops out this season. Out of 2,000 slides examined, 927 were selected as suitable for exhibition purposes. The notable defect in many cases was the under-exposure of the slides in the camera and too short development, making them deficient in detail in the high-lights. The causes of rejection were denoted as follows: *A. Too weak, flat, over-exposed; B. Too dense, chalky, under-exposed; C. Out of focus, not sharp; D. Badly matted, aperture too large or incorrectly labeled; E. Uninteresting subject.*

NEWARK CAMERA CLUB.—On the evening of November 7th, after the regular meeting, the prize slides of the London *Amateur Photographer* were exhibited. The fifth annual public exhibition of slides by members of the club was held on the evening of November 18th at the Association Hall. The *Newark Sunday Call* says of it:

"The number of slides shown was 165, and while the technical standard of the exhibition was not as good as some which have preceded it, there never was a more varied and interesting lantern-slide exhibition given in Newark. Variety was its chief charm. There were many pictures of great merit, both from the point of technical excellence and from timely interest, but there were others lacking in the nice points which go to make up a perfect slide, but with which no fault could be found on the score of interest. Many of the most interesting slides were scenes from the recent Columbian celebration in New York and on the river. Then there were some striking compositions which were favorably received, the "Stage Robbery" and two scenes from the canal trip being among them. Three pictures taken on the cholera-ship *Rugia* were not able novelties. The yacht pictures by Commodore Hine and others were especially fine. Mr. Halsey's "Old Mill" elicited deserved applause. A novelty was a sample of geometrical lathe-work by William Archibald. His lightning flashes were remarkable, but one caught by Miles I'Anson was phenomenal, both as a lightning flash and as a feat in photography. Mr. Leroy, who showed the *Rugia* pictures, had also some interesting scenes in Hamburg and Hanover. Among the figure pieces the best were Hine's "Japanese Lady," F. J. Griffith's "Three Little Maids" and one of Dr. Meeker's groups. Mr. J. C. Vail had a number of good scenes along the Whippany. Mr. Sala showed several fine landscapes. I. R. Denman had some interesting Florida pictures. J. L. Yatman showed an excellent view of the moon 'two-thirds full.'

"The intermissions were acceptably filled by concert features. Mr. George H. Simonds gave two baritone solos and Mr. Tonzo Sauvage did some brilliant piano playing. There were too many pictures, and toward the end the audience showed signs of restlessness." Several slides by a number of the different makers were contributed to the set sent to the American Lantern-Slide Interchange.

ORANGE CAMERA CLUB.—November 21st the regular rejected slides of the club, thrown out by the Committee of the American Lantern-Slide Interchange, were examined, and the reason for rejection was given as each slide was shown, which made a very interesting evening for those anxious to learn.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.—A stated meeting of the society was held Wednesday evening, November 9, 1892, the president, Mr. Joseph H. Burroughs, in the chair.

The Board of Directors reported the election of the following active members: Messrs. Richard Paxson and William G. Hopper.

It was also announced that the president had appointed the following committee to conduct the Sixth Annual Photographic Exhibition under agreement with the Society of Amateur Photographers of New York and the Boston Camera Club: Robert S. Redfield, John C. Bullock, Charles R. Pancoast, Charles L. Mitchell, M.D , and Edmund Stirling.

The exhibition will be held April 17th to 29th, 1893, in the Galleries of the Pennsylvania Academy of Fine Arts, and every effort will be made to make it the most interesting and successful of the series yet held.

The resolution offered at the last stated meeting to amend the By-Laws so as to make a change in the meeting night, was discussed at considerable length, and finally, on motion of Mr. Coates, was laid on the table.

A number of photographic novelties were shown by Mr. Morris Earle, among which were: Celluloid trays of special construction, and made in various colors; a transparent tray with a well at one end to hold the developer when tray was raised to examine the negative through the bottom. He also showed and described the Frena Magazine Hand-Camera, made by Messrs. R. & J. Beck, of London. The camera used cut celluloid films, 3¼ inches square, the magazine containing forty such films.

Dr. Mitchell showed similar negatives made under similar conditions, with the Ross Concentric Lens and Ross Portable Lens, which afforded an opportunity for studying the comparative advantages of the two lenses for different classes of work.

An interesting collection of lantern-slides was shown and described by Mr. John C. Browne, illustrating a recent trip made by him to Alaska.

Adjourned. ROBERT S. REDFIELD, Secretary.

PORTLAND CAMERA CLUB.—November 29, 1892, the English prize slides, to the number of some two hundred or more, were shown before members of this club and friends at the club-rooms this evening. The slides were greatly admired for their excellent quality; but it is a source of inconvenience in their being square instead of conforming to our standard size, thus necessitating a general tinkering-up of holders to accommodate them. A fact which impressed our members was the perceptible difference in the grading from the certificate medal to the gold medal in each class, also the general softness and warmth of tone as a whole. Some of the figure and architectural subjects drew forth applause from an appreciative audience, as well as several marine views.

CAMERA CLUB OF HARTFORD.—At the regular monthly meeting, held November 8th, Mr. Fred. D. Berry was unanimously elected treasurer and Mr. Albert H. Pitkin a member of the executive committee. Both of these gentlemen had declined a reelection at the annual meeting, but since then they have been induced to reconsider. After some routine business the meeting adjourned to view the two sets of lantern-slides furnished by the Springfield and Hartford clubs. The Springfield slides did not come up to expectations; in fact, they were inferior in quality to those heretofore furnished by this club, and fell far below the standard shown by the New England Lantern-Slide Interchange of the season of 1891-2.

The Hartford set was not so good as the club could wish, but, on the whole, the slides compared most favorably with those furnished one year ago.

The executive committee, wishing to have the club identify itself with art whenever an opportunity offered, arranged for an exhibition of fifty charcoal paintings made by D. F. Wentworth, a well-known Hartford artist. This exhibition took place in the club-rooms November 15–19, and was of a character never before shown in Hartford. (I enclose an invitation card and a notice from the *Courant* of Hartford). The club members and the public had the opportunity of seeing what could be done in black and white, and, barring some unpleasant weather at the time, the exhibition was fairly well attended.—CHAS. R. NASON, Cor. Secretary.

HOBOKEN CAMERA CLUB.—November 29th the club had a smoking concert, which was largely attended and greatly enjoyed. Emil Adolphi gave selections on the piano, Frank Adams on the harmonicon, while members of the Amphion Glee Club responded to repeated encores. Several members of the Newark Camera Club were present and enjoyed the entertainment.

MINNEAPOLIS CAMERA CLUB.—On November 9th, Mr. Burt Harwood gave an informal but interesting talk on "Composition and Art in Photography," illustrated by lantern views. The club has been admitted as a member of the American Lantern-Slide Interchange.

HIAWATHA CAMERA CLUB, of Minneapolis, Minn., held a meeting on November 15th. Slides by members were thrown upon the screen.

SPRINGFIELD CAMERA CLUB.—On November 23d the club exhibited the Lynn Camera Club's slides sent to the New England Lantern-Slide Interchange.

CINCINNATI CAMERA CLUB.—On the evening of November 21st the club was entertained by an exhibition of a collection of photographs by Mr. H. P. Robinson, and were greatly admired. Lantern-slides by the California Camera Club, and slides of English views made by Mr. T. H. Kelley, the secretary of the club, were shown.

TORONTO CAMERA CLUB, Toronto, Canada.—The club gave an interesting lantern-slide exhibition on the evening of November 21st. A picture of forked lightning, made by Mr. Harry English, was quite remarkable. There were other excellent marine views. The club held a lantern-slide competition on December 5th, and has an annual exhibition of photographs on January 12th, 13th and 14th.

BOSTON CAMERA CLUB.—*Financial Statement of the Fifth Annual Joint Photographic Exhibition, held at Boston, May*, 1892:

CREDIT:	Sundry receipts,	$ 18.12	
	From sale of wall-space,	78.60	
	" " catalogues,	351.20	
	" " advertising space,	1,258.75	$1,706.67
DEBIT:	To sundry payments,	$ 116.98	
	" expenses at Art Club,	168.90	
	" " of printing, postage, etc.,	734.93	
	" " " medals and diplomas,	100.50	
	" " " framing foreign exhibits,	53.20	
	" balance,	532.16	$1,706.67
	Balance to credit of Boston Camera Club,		$532.16

E. & O. E.,
for the Committee on Joint Exhibition.

WILLIAM SUMNER BRIGGS, *Treasurer*.

Books and Exchanges.

OLD FRIENDS WITH NEW FACES —A charming book in conception and execution has been sent us by the well-known amateur photographer, Mrs. N. Gray Bartlett, of Chicago. She was one of the fortunate Americans to have work accepted at the recent Vienna Exhibition, and this dainty volume shows that the honor was fully deserved. The text consists of rhymes from the "Mother Goose Melodies," and the figure studies are children, exceedingly well posed in natural, easy positions. Technically and artistically the book is a success, and ought to disprove the assertion that the illustration of such works must be done by brush or pencil. Mrs. Bartlett is an artist in soul, and, besides, she is willing to take infinite pains to realize her ideals. We trust our readers will see and enjoy the book for themselves. It is published by the Joseph Knight Company, publishers, Boston, Mass.

The American Annual of Photography and Photographic Times Almanac — 1893— 393 pp.; cloth, $1.00; paper, 75 cents. Scovill & Adams Co., publishers, New York.— A welcome annual visitor, full of good things for the photographer, and a most excellent book for the studio. We cannot say that it is any better than previous annuals, but it is fully as good. There are 180 practical articles on many subjects, an interesting collection of Daguerre portraits, and numerous half-tone illustrations. Of the two photogravure illustrations in the front of the book, that entitled "Good-Morning!" by G. Watmouth Webster, is much the best and most appropriate. As an example of artistic photography, which should in our opinion be a work of art, for a frontispiece, we are surprised that Miss Emilie V. Clarkson's amusing and rather suggestive picture, entitled "Focusing," should have been selected. Miss Clarkson has done far better work, and it is doing her an injustice to put this picture forward as an example of one of her highest types of work. We are also surprised that the title of Mr. Thomas Mansell's interesting view of Netley Abbey should have been so badly twisted. In the text and under the picture it reads "Ruins of Velton Abbey." We will supply copies of the Annual to subscribers, cloth-bound, postage paid, at $1.00 each. New subscribers can secure the AMERICAN AMATEUR PHOTOGRAPHER for one year and the Annual bound in cloth for $2.50.

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Editorial Table.

AMIDOL.—This article, introduced into this country by Messrs. Schulze-Berge, Koechl & Movius, still meets with favorable comment wherever tried. In a communication sent to us they state that they are the only firm authorized to introduce amidol into this country, and call attention to the fact that only that which bears a certain trade-mark is the genuine article. There appears to be some competition springing up in supplying this article to the photographic world, which is likely to result in its general improvement and cheapness.

DR. ANDRESEN'S AMIDOL.—Samples of this new compound have been handed us for trial, and we found it to be a very efficient and powerful developer for dry plates. The notable peculiarity of this sample over those of other manufacturers is that it appears to be whiter in color and to be supplied in a powdered form, similar to eikonogen. It is certainly worthy of a trial, and will compete favorably with all similar agents. Mr. Arthur Schwarz has the sole agency for the United States and Canada for this new chemical preparation.

"*Index Rerum Photographic,*" *by Dr. John H. Janeway, U. S. A., continued from page 522, vol. iv.*

counteract sudden changes, and until the pupil is sufficiently small to exclude the brighter lights the eye is felt to suffer. Chemicals that are strong enough to make the eye tingle cannot be otherwise than detrimental. The outdoor photographer should indulge in blue glasses. Not only will they protect the eye from Summer glare, but will serve a useful purpose. The absence of nature's pleasing colors, seen through tinted glasses, reduces the picture to the more monochromatic tone of the photograph, and a view that looks well through the blue spectacle is pretty sure to yield a good plate. Retouching is more trying to the sight than any other photographic work, and therefore more care should be exercised in shading the eyes from the light at top and sides; and the negative should only be worked in parts, the balance being covered by a dark slide, thus preventing a large surface of unnecessary light dazzling the eyes. Neither should the work be continuous, but frequent rests be taken.

EYE, EXPRESSION OF THE, IN PHOTOGRAPHS TAKEN WITH MAGNESIUM FLASH-LIGHT—A certain amount of expansion of the pupils gives, as is well known, a beauty and brilliancy to the eyes. In a strong light the pupils are very much contracted, and the *expression* is not so beautiful as when the eyes are seen "in a dim, religious light." In darkness the pupils are much dilated, and have an outlook like sometimes found in photographs improperly taken by the flash-light—*i.e.*, all the lights in the room being extinguished before making the exposure. Now, if it be true, as the facts seem to warrant, that the magnesium light will produce an impression in less than $\frac{1}{10}$ of a second, we readily see that the pupils, responding to a much slower nervous impression, can neither contract nor expand in so short a period of time, but must remain in the condition in which they happen to be—in absolute darkness, unduly expanded; in subdued light, dilated only sufficiently to give brilliancy and beauty of expression. It is worse than useless to turn out the lights when making an exposure. The most sensitive plates are not affected in the camera with several minutes' exposure to the light from a gas-jet. Care is only necessary to prevent the flame shining directly in the lens. Indeed, if the lights are not too intense, they form in many cases a pleasing feature in the photograph itself.

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Fabric, Golden—A translucent material, dyed golden or yellow—preferably of a sunflower tint—for use in windows of dark-rooms, etc. As many specimens of this fabric coming under my observation allowed actinic light to filter through it, care should be taken to properly test it before use for this fault. It has been proposed to smear the surface of one sheet of the fabric with vaseline and to squeegee another sheet upon it, the vaseline causing the two to adhere. It can also be used satisfactorily in making a traveling lantern. A large sheet of pasteboard, of sufficient height, is marked off into three equal widths ; in each of them a part of the pasteboard is cut out, forming windows, and the space filled with the fabric. The marked portions are then partially cut through and the board bent to a triangular shape. It will now fit over a candle or lamp, and be found useful in changing plates, etc., away from home. When not in use it will lay flat, and takes up little or no room in the trunk or bag.

Fabricus—The alchemist searching for the philosopher's stone or the universal panacea, discovered chloride of silver. Spreading some of it upon a flat surface, he noticed that any image projected upon it by means of his lens was imprinted with all the gradations of nature —translated into blacks and grays.

Faces, Study of—Faces and figures should be continuously and specially studied by the photographer. Ever changing as they move before you, you must not only notice the changes as they occur, but you should make yourself acquainted with the cause of such changes.

Fading of Negatives—Due either to imperfect washing or cleaning, or both, and the subsequent action of the hypo on the delicate image of silver.

Fading of Prints—These are not exempt to the great law, " do all fade as a leaf," and is regarded as a great blemish upon the character of photographic prints. A variety of opinions are given as to the cause, but the consensus of the great majority is that it is due in some way or other to the presence of sulphur or some one of its compounds. Albumen, we know, contains sulphur, though in minute quantity, probably sufficient in decomposition to give rise to the formation of a compound of sulphur and silver. We know that prints insufficiently cleared, or washed after clearing, fade rapidly. In the first case there may be found an insoluble hypo of silver salt, and in the latter case the imperfect elimination of the hypo may give rise to the same result. Fading may also frequently result after mounting. The cardboard may contain hypo, or a cheap board made from decomposing material, or the mountant may be acid or decomposing. All sorts of efforts are made to prevent this fault, and some depend entirely upon carefully washing the prints in several changes of water. Running water, itself changing, is the best. Several years ago Prof. H. J. Newton, of New York, recommended as a safe and effectual method of clearing the prints of hypo by the use of a bath of acetate or nitrate of lead. Whether this process would leave the prints in a condition that would secure greater permanency was a question which time only could determine. I have seen prints so treated six and eight years ago that yet show no perceptible change, though frequently exposed to sunlight for months, and prints made at the same time but not treated with the lead have become yellow and faded. Prints frequently appear faded and sickly upon leaving the clearing bath. The trouble here seems to be that they are underdone—not printed deep enough, and certainly not toned deep enough—not all the way through.

FADED PRINTS, TO RESTORE—Remove the print from the mount, soak in water and then immerse in a solution of neutral chloride of gold and potassium (3 to 4 grains of gold to 4 ounces of water) till the desired tone is obtained. Wash in subdued light; clear and wash carefully again. H. Sandaurek, of Teschen, received a medal from the Photographic Society of Vienna for a process of reproducing and restoring albumen prints that have faded. His baths are: No. 1—Tungstate of soda, 100 grams, or 3½ ounces; distilled water, 5,000 cubic centimetres, or 175 ounces. No. 2—Carbonate of lime (C. P.), 4 grams, or 62 grains; chloride of lime, 1 gram, or 15½ grains; chloride of gold and sodium, 4 grams, or 62 grains; distilled water, 400 cubic centimetres, or 12 ounces. Solution 2 is made in a yellow glass bottle, well stoppered, and allowed to stand for twenty-four hours before use. It is then filtered into another bottle of yellow glass, and, to preserve it, well corked. To use, say, for a sheet of albumen paper, take 150 cubic centimetres, or 5½ ounces, of No. 1, to 4 to 8 cubic centimetres, or 1 to 2 drams, of No. 2. These prints, well washed, are placed one at a time in this bath. The strengthening must not be too rapid, ten minutes being sufficient in Summer, and the bath must not contain an excess of chloride of gold. Properly used, a beautiful, clear purple color is obtained. To clear the prints take 150 cubic centimetres, or 5¼ ounces, of solution No. 1, to 15 cubic centimetres, or 4 drams, of hyposulphite of soda. The strengthened prints are well washed, placed in this bath one at a time and soaked until the yellow color is entirely gone, which requires, in some cases, three to five hours, when they are again thoroughly washed.

FAHRENHEIT—Pertaining to or measured by means of a thermometer, commonly used in America and England, having the boiling-point at 212° and the zero at 32° below the freezing-point of water, which, at the time the scale was invented by Fahrenheit in 1714, was the lowest then known temperature, and was thought to represent absolute cold. This temperature was obtained by mixing equal weights of sal ammoniac and snow

FAILURES IN NEGATIVES—*Foggy Negatives*—Caused by over-exposure; white light entering camera, holders or dark-room ; too much light during development. Fog may also be caused by decomposed developer, introduction of hypo or nitrate of silver into the developing solution from the fingers, or from tables wetted by the spilling of solutions from trays; developer too warm, or developer containing too much sodium or potassium without bromide; weak negatives with clear shadows, under-exposure; too strong, with clear shadows, under-exposure; weak negatives, with plenty of detail in shadows, with want of intensity, generally caused by over-exposure. Shorter exposures and longer development will, in most cases, produce sufficient density. The addition of a bromide solution will often produce more intensity and contrast. Fine, transparent lines, caused by using too stiff a brush in dusting off the plates ; crystallization on the negative and fading of image ; imperfect elimination of the hypo.

Yellow-Colored Negatives—Not enough sulphite of soda in the developer, or the article used is decomposed ; yellow stains, caused by using a plain hypo bath which has assumed a dark color, or by not leaving the plate in the hypo bath long enough. Mottled appearance is caused by precipitation from the clearing bath containing alum, if the bath becomes turbid or if it is old.

FALSE RENDERING OF PHOTOGRAPHIC IMAGES BY THE MISAPPLICATION OF LENSES—In portraiture it was advised a good many years ago that, in taking a portrait of a given size, the focal length of the lens employed should be at least double the largest dimension of the image. This rule was laid down to avoid, as far as possible, false rendering in the perspective. In taking a large head, life size, it is well known that the camera must be pulled out to double its equivalent focal length, and the subject placed at the same distance on the other side of the optical centre of the lens. This particular distance, viz., double the focal length of the lens, holds a very important position in its relation to the law of conjugate foci, in that any other point nearer than this will produce an enlarged image on the screen, and that any point more distant than this will be represented by a reduction in the size of the object; hence, if the eye of the sitter be focused for full face, the nose of an ordinary person, projecting in front of the eye, must necessarily be enlarged, and the ear, farther away, must be reduced in scale. By what is called straining the lens these effects of contrast become more and more apparent, and hence it is that, though there is a drawback in using long-focus lenses on account of their lack of depth of focus, still the longer the focus of the lens employed in a given case of portraiture the better, in that those contrasts are not so marked. It is, therefore, apparent that the more the lens is strained—*i. e.*, used under conditions farthest away from those parallel rays, or giving it a temporarily lengthened or forced focus—the more pronounced will be the false rendering. It is better, in ordinary portraiture, to limit the amount of angle taken in, as far as possible, by employing lenses whose foci are at least twice the length of the image, and also to have the subject at such a distance that there is not a too remarkable distance between the corresponding conjugate points of the fore and back ground.

View Lenses.—The whole of false impressions given in views, outside the question of imperfectly corrected lenses, hinges on the point of the amount of angle that is allowable to be included on a given size of plate. A theoretically perfect instrument would be a pinhole camera, having the section of a mathematical straight line for an aperture. Such an instrument would give any amount of latitude in focus and angle of the subject included, and what the eye itself can never do—*i. e.*, approaching an angle of 180°. In views the point to be settled is the correct amount of angle to be included. It may be taken for granted that no picture should include an angle of more than 60°, and it would be safer still never to employ a lens of shorter focal length than the larger dimension of the plate, or slightly over 50°; but it is very evident that the longer the focal length of the lens compared to the greater dimension of the plate, the more pleasing will the perspective become, provided there is sufficient subject of interest included. If then it can be decided, once for all, what is the extreme amount of angle to be included—and this or always less is included—we shall never be pained by seeing pictures that, if they are true in drawing from the point of sight of the lens itself, are nevertheless distinctly untrue from the distance of ordinary vision. Taking cases of falsely rendered results one sees of architectural subjects and interiors on the one hand, and wide-angle landscapes on the other, where the distance is dwarfed and does not hold its true value compared to the foreground, it should be borne in mind that if these views could be comfortably viewed at the distance of the focus of the lens, they would be true; but with angles of 70° and 100° it is impossible, without movement of the head, to appreciate even at that distance.

FAULTS IN NEGATIVES—Want of density or flatness of image is usually due to under-development, or to the use of too weak a developer, and very frequently to over-exposure combined with one of these. There are some plates which will not give a vigorous negative, however they be developed. This is the case with plates on which the emulsion has been too thinly spread. If such plates are to be used at all, an after-process of intensification must be resorted to. Too great density of image is a fault sometimes met with. It is always due to error of judgment in development. (For cure, see Reduction.) Spots of various kinds are liable to be found in the finished negative. They are of various forms and are produced in various ways. Minute transparent spots or pinholes are caused by dust resting on the plate during exposure and development. The plate should be brushed with a broad camel's-hair brush before it is placed in the holder and before development. Spots and small rings are due to irregular drying of the emulsion. Small transparent spots with irregular outline are due to defect in the manufacture of the plate. Undefined marks and spots on the film after development are due to grease in the gelatine. Small transparent, perfectly circular spots with well-defined outline are due to air-bubbles in the developer, and are only produced when too small a quantity of developer is used. Air-bubbles do not, as commonly supposed, form on the surface of the plate under the surface of the developer; they form on the surface of the developer, and if there is too little solution, come in contact with the surface of the plate and then adhere. Opaque spots are almost always due to defects in the plate, and can-

(To be continued.)

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Yours truly,
CASPAR MILLER,
Member Phila. Photo. Society.

MONON ROUTE.

PASSENGER DEPARTMENT,
MONON BLOCK,
CHICAGO, April 7, 1892.

W. H. McDOEL, Gen. Manager.
JAMES BARKER, Gen. Pass. Agent.

JOHN CARBUTT, ESQ.,
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Very truly,
JAMES BARKER.

FLORENCE, ITALY, March 29, 1892.

MR. JOHN CARBUTT :

DEAR SIR :—I took 100 of my film negatives to-day (exposed under all sorts of conditions, rain and shine, time and instantaneous, and developed on board steamer, in sleeping cars and hotels) to Mr. Shembocke, the leading photographer here and in Rome, to be printed. I take for granted that the films are working finely from the fact that while looking the negatives over he kept exclaiming, "Magnificent ! magnificent !" and called some of his operators in to examine them. This evening he came to the hotel and asked many questions about them, all of which I answered as well as I could, and promised to write to you and request you to give him the address of your European agents.

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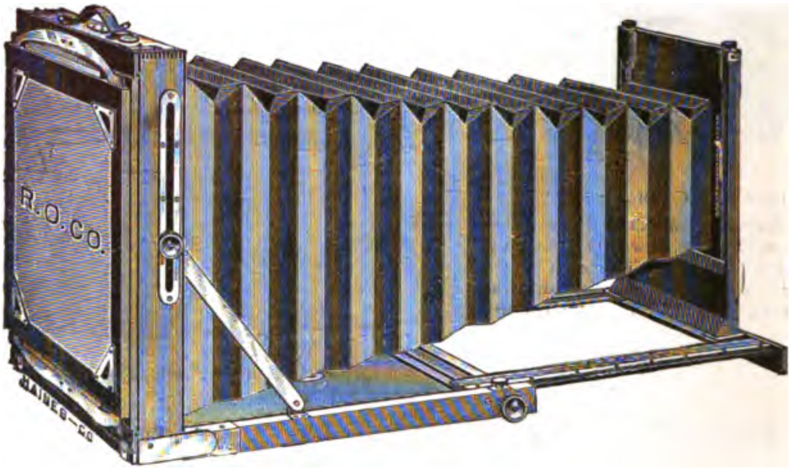

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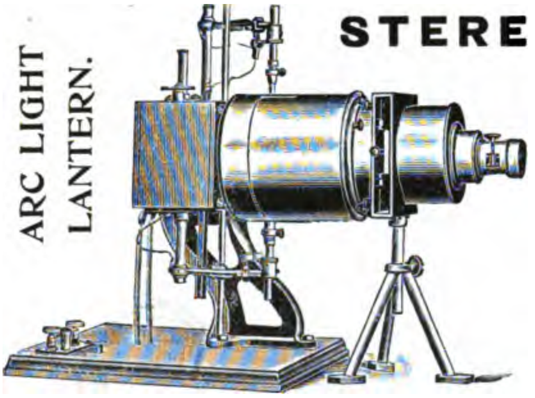

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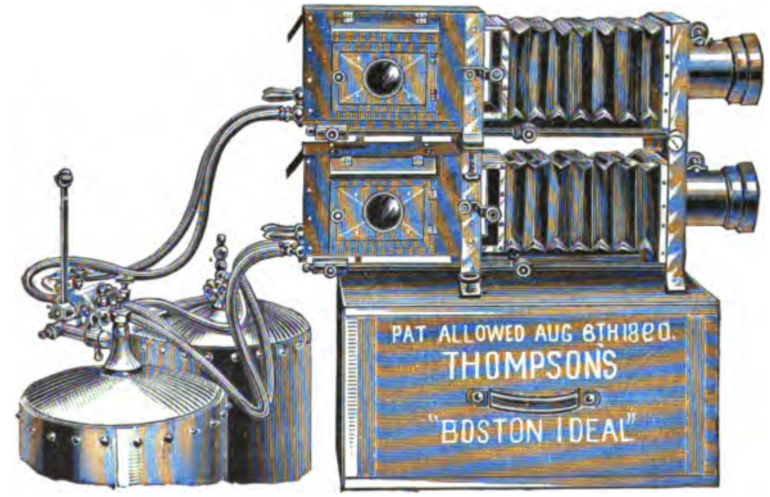

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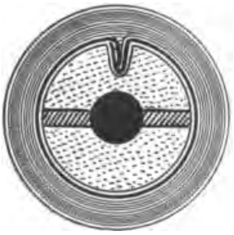

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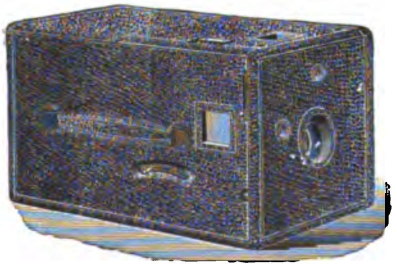

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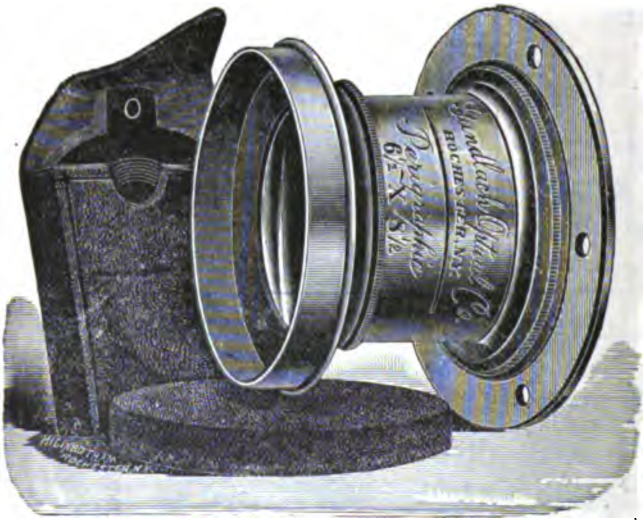

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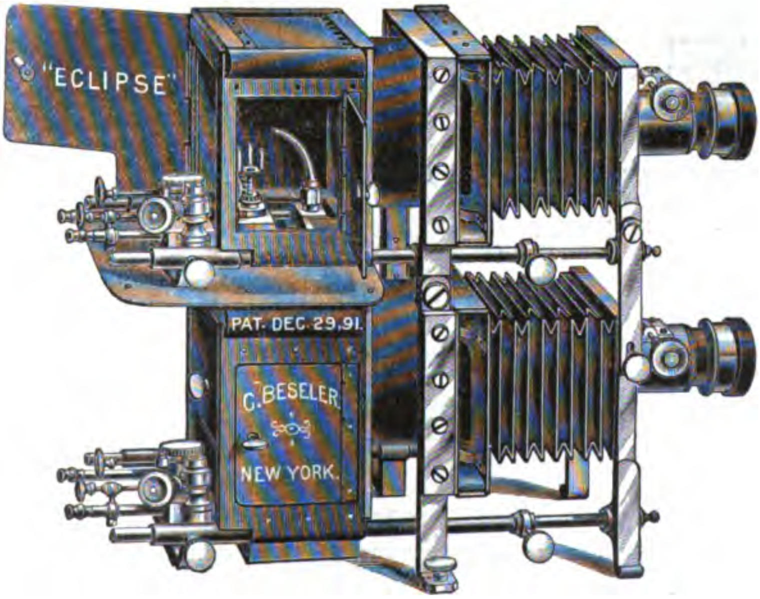
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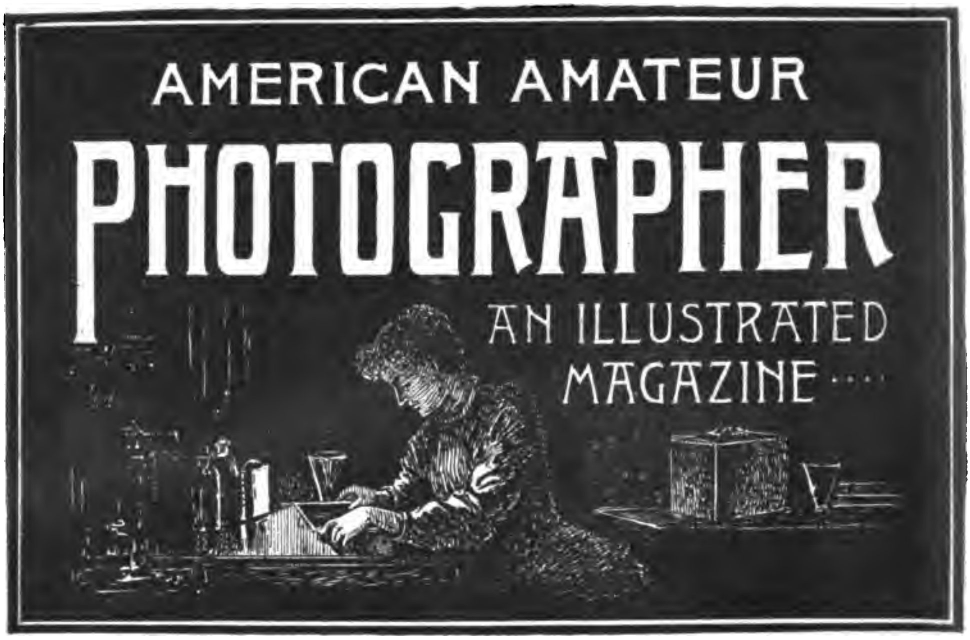

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CONTENTS.

Frontispiece: "Japanese Girl." By William B. Post.

An Outing in the Cloud-Lands of Banff. By Ely Van de Warker, M. D. (Illustrated.) 523

Why Stereoscopic Prints are Transposed? (Illustrated.) 528

Club Sketches. (Hoboken Camera Club.) (Illustrated.) 530

The Heliochromoscope. (Illustrated.) 536

The Relation of Art to the Lantern-Slide. By Henry J. Newton. 539

Diamidophenol—(Amidol). By P. C. Duchochois. 542

Editorial Comment, 545

Our Illustration — Close of the Fourth Volume — Road Photographs — Later Experiments with Amidol—World's Fair Photographic Privilege—The Columbian Visitors' Association.

Correspondence, 548

English Press Comments on World's Fair Photographic Privileges, 550

Society News. (A Camera in Ireland.) 552

Books and Exchanges, 564

Editorial Table, 564

Index Rerum Photographic, 565

The Expression of the Eye in Photographs Taken with the Magnesium Flash-Light —Golden Fabric—Fabricus—Study of Faces—Fading of Negatives—Fading of Prints—To Restore Faded Prints—Fahrenheit—Failures in Negatives — False Rendering of Photographic Images by the Misapplication of Lenses—Faults in Negatives.

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